STRESS IN UNDERGRADUATE STUDENTS STUDYING SPEECH-LANGUAGE-HEARING SCIENCES

by
Brianne Higgins Roos

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Abstract

Undergraduate students' stress is on the rise and stress is associated with decline in students' mental health, including increased depression, anxiety, and suicidality. Social support provided by students' peers, families, faculty members, and advisors may serve as a buffer by decreasing the stress experienced by students and by helping them to manage stress. This study examined the stress of undergraduate students studying speech-language-hearing sciences (SLHS) at a university in the Mid-Atlantic. A mixed-methods needs assessment revealed factors related to students stress primarily related to graduate school admission. Graduate admission is competitive, and students feel their peers studying at the same university are their greatest competition for graduate admission. The competition complicates students' friendships and compromises social support, and students expressed that they would like to receive more social support from faculty. Thus, the second part of this study was an intervention with SLHS advisors to modify advising practices as a means for providing increased social support. Six SLHS advisors participated in a hybrid program called appreciative-praxis advising (AP advising). The advisors completed face-to-face and online training and implemented AP advising strategies over one academic semester. A mixed-methods study was conducted to explore the implementation and proximal outcomes of the intervention, including the Inventory of Academic Advising Functions-Faculty, the Gatekeeper Behavior Scale, and focus groups. Quantitative evidence yielded minimal findings with statistical significance, but triangulation with qualitative data suggests the findings had practical significance. As advisors reported changes in their advising knowledge and skills related

to prioritizing getting to know the student before course selection, using AP advising in advising and teaching contexts, and caring for the whole person, or *cura personalis*.

Dedication

This work is dedicated to my daughters, Deirdre and Bridget. Thank you for enduing these three years with love and patience. Your notes while I was working made me laugh, your games were the breaks I needed, your questions made me think (e.g., "Does this work help you to teach better?" and "Do I have to get a doctorate when I get older?"), and your hugs gave me strength - truly. I hope that you learned the value of persistence, that your village always has your back, and that once you discover what you are meant to do, even the highest goals are within your reach.

And to my husband, Jason, the first Dr. Roos in our home. You knew I would take this doctoral journey long before I did and your belief and faith in me was unwavering. Thank you for taking over the grocery shopping, for establishing chore lists, for recognizing when I needed 48 hours alone to write, and for having the vision to see beyond what felt like unsurmountable challenges along the way. Most importantly, thank you for your perspective and for our long talks about the real meaning of this work. You never knew what you were going to get when we left to walk Morgan each night and you were always ready with the right words to help me to push through the next day.

Our family earned this degree together and these pages are dedicated to you.

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and heart. Wearing the same academic regalia as you three will be my honor - and you know I can't wait for the next ceremony!

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Finally, to my students. You are the core of my research and to teach you is a privilege. Thank you for calling me to this work.

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Executive Summary

Current undergraduate students are stressed, and stress may impact students' mental health and increase students' likelihood of anxiety, depression, and suicidality (Liu, Stevens, Wong, Yasui, & Chen, 2018). Cannon (1914) first studied stress over 100 years ago when he described humans' reactions to threat as fight or flight responses. In 1936, Selye examined stress in rats by exposing them to various nocuous stimuli. Lazarus (1966) borrowed from the field of physics, in which stress refers to the area impacted by a load (Hinkle, 1974). The definition of stress that endures is "an external load or demand on a biological, social, or psychological system" (Lazarus, 1993, p. 2). Physical and cognitive symptoms of stress emerge in college students because of their perceptions that they cannot manage the load, or demands placed on them (Lazarus & Folkman, 1984). Undergraduate students who study speech-language-hearing sciences (SLHS) in preparation for careers in speech-language pathology experience heavy demands and stress related to graduate school admission, as a graduate degree is required to practice speech-language pathology and the number of applicants far exceeds the number of available seats (Tekieli Koay et al., 2016).

Stress in Context: A Problem of Practice

The context of this study is a small private liberal arts university in the Mid-Atlantic where approximately 175 students major in SLHS. Most of the students intend to pursue careers in speech-language pathology, which requires a graduate degree. Competition for acceptance to speech-language pathology graduate programs is intense as the employment outlook for graduates is favorable (Bureau of Labor Statistics, 2017). The field attracts far more applicants than graduate programs can accommodate, and

students must earn high grades to earn graduate admission (Tekieli Koay et al., 2016). SLHS students may experience stress due to academic, financial, and social factors.

Academic expectations (Garett, Liu, & Young, 2017; Jacob, Itzchak, & Raz, 2013) may be cognitive, such as tests and papers (Komarraju, Ramsey & Rinella, 2012) and non-cognitive, such as time management and motivation (Bandura, 1997; Verrell & McCabe, 2015). Students also experience stress related to financial obligations, including costs associated with tuition, room, and board, and loan repayment (Berg-Cross & Green, 2010; Britt, Canale, Fernatt, Stultz, & Tibbets, 2015). When stressed, students must inhibit intruding stress-related thoughts that occupy their working memory (i.e., cognitive load) in order to permit new learning (Klein & Boals, 2001). The presence of intruding thoughts and the demands of inhibition impact students' cognitive capacity for processing and storing new information (Baddeley, 2012; Cowan, 2010). Additionally, stress may impact students' mental health and increase students' likelihood of anxiety, depression, and suicidality (Liu et al., 2018), suggesting the urgency of studies such as this one.

Needs Assessment

Literature suggests that academic, financial, and social factors contribute to undergraduate students' stress, but there is a dearth of studies that examine the specific experiences of students studying SLHS. Students' perceptions are at the core of their stress and Lazarus (1966) suggests the way students perceive their ability to manage demands placed on them determines their levels of stress. To learn about the stress of SLHS students at the Mid-Atlantic university, a mixed-methods needs assessment using a mixed methods, convergent parallel design, with simultaneous administration of a

quantitative questionnaire and qualitative focus groups was designed and implemented. The needs assessment addressed the following four research questions, based on empirical literature and contextual experience with stressed undergraduate students.

RQ1: What is the perceived stress level of undergraduate students studying SLHS?

RQ2: What factors do SLHS undergraduate students perceive are related to their stress?

RQ3: How do undergraduate SLHS students manage stress?

RQ4: What resources do undergraduate SLHS students feel are available to help them manage stress?

The quantitative section addressed the first three research questions, and the qualitative section of the study addressed all four research questions. The results of the quantitative and qualitative sections were analyzed, respectively, and then triangulated to provide comprehensive responses to the research questions.

The quantitative questionnaire was administered electronically and included questions from the Perceived Stress Scale-10 (Cohen, Kamarck, & Mermelstein, 1983), Student-life Stress Inventory (SSI; Gadzella & Baloglu, 2001), the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991), and original context-specific questions. Eighty-three students completed quantitative questionnaires, representing a 48% response rate. Concurrent with the questionnaire, 23 SLHS students from the same sample participated in qualitative focus groups. The focus group design was semi-structured using a general interview guide approach (Turner, 2010) intended to provide the facilitator with a general structure for the discussion while

also encouraging follow-up questions and the progression of natural conversation. The purpose of the focus groups was to learn more about students' experiences of stress, including how stress feels, what they find stressful, and how they manage stress. The students were forthcoming with information, and their responses both aligned with the quantitative data and revealed additional insights into their stress experiences.

Quantitative findings from this study confirmed SLHS students are stressed, named relevant factors related to their stress (i.e., academic demands, graduate admission, financial concerns), and identified how students manage their stress (e.g., exercise, work to finish assignments, call home). The most salient findings from the qualitative portion of the study aligned with the quantitative results and expanded upon the questionnaire responses to provide context and depth to SLHS students' stress. The students consistently mentioned academic demands, graduate admission, and financial concerns in the focus groups. They also elaborated and discussed transition to life outside of college, competition, and the need for community as areas of stress.

Competition with peers and friends emerged from the focus groups as a prominent source of stress for SLHS students. Because of the discrepancy between the number of applicants to graduate school and the available seats, competition is inherent in the process of graduate admission. However, the conflict around competing with the peers who shared the same small classes for four years and who often become close friends is stressful for students. It is natural to turn to friends for support, but SLHS friendships are complicated by competition, and several students reported not speaking with friends about graduate school at all, which is challenging because over half of students reported thinking about graduate school at least daily.

After learning about the stressful nature of competing with close peers and friends, students' desire for increased community and social support in SLHS makes sense. Students in the focus groups wanted connections with faculty and SLHS students in other class years in a non-academic context. Academics are stressful for students, and they expressed the preference to bond with one another and faculty outside of a classroom or graduate school meeting environment. Students seem to want improved social support from people who understand their experience first-hand to help manage stress.

Intervention

Needs assessment data revealed SLHS students are stressed, and they seek stronger relationships with faculty to help manage their stress. SLHS faculty members serve as advisors for SLHS students and the advising schedule is looped, which means advisors keep the same students from their sophomore through senior years (first-year students have core advisors), then advisors loop back and begin with a new sophomore class after seniors graduate, and so forth. The looped schedule provides an opportunity for advisors to provide social support to students through long-lasting and meaningful relationships, and social support may serve as a buffer for students' stress (Chao, 2012; Cohen & Wills, 1985; Watkins & Hill, 2018).

After reviewing advising, mentoring, psychology, and professional development literature, the structure of an intervention that involved advising to improve social support emerged. Of the four types of advising reviewed (i.e., prescriptive, developmental, praxis, and appreciative), appreciative (Bloom, Hutson, & He, 2008) and praxis (Hemwall & Trachte, 1999) advising align most strongly with both SLHS

students' stated needs for support to manage their stress, and the mission and the Jesuit pedagogical practices employed at the university. Appreciative (Bloom et al., 2008) and praxis (Hemwall & Trachte, 1999) advising emphasize meaningful relationships between advisors and students. Both appreciative and praxis advisors ask probing questions that encourage students to reflect on past experiences to learn about themselves and to develop individual plans for growth and success in college and beyond. Advisors who take the time to use appreciative and praxis strategies with students approach advising meetings holistically, rather than with a prescriptive focus on course selection (Crookston, 1972/1994). As advisors and students talk and develop relationships, advisors are well positioned to identify changes in students' mental health, and advisors should be aware of the increasing incidence of college students with mental health needs (Liu et al., 2018) and feel prepared to identify and refer at-risk students to appropriate campus resources.

The purpose of AP advising intervention was to provide SLHS faculty advisors with knowledge and skills to improve social support for students, with the ultimate goal of improving students' experiences with stress. Specifically, AP advising included: (a) an online training module (Kognito) about identifying and referring at-risk students, (b) a face-to-face professional development (PD) launch meeting to introduce appreciative and praxis advising, (c) biweekly emails with multimedia content to support advisors' implementation of AP advising, and (d) a wrap-up meeting to discuss the implementation and results of the intervention. Convenience sampling included six SLHS advisors who agreed to participate in the study. The advisors were experienced, with an average of 21.5 years as faculty members and 18 years as major advisors.

The intervention addressed the following research questions:

RQ1: To what extent did SLHS advisors participate in the Kognito module, launch, and debrief meetings?

RQ2: What were SLHS advisors' experiences with the AP advising program?

RQ3: To what extent did AP advising change SLHS advisors' knowledge of appreciative and praxis advising strategies?

RQ4: To what extent did AP advising change SLHS advisors' preparedness to identify and refer at-risk students?

RQ5: To what extent did SLHS advisors' use of AP advising strategies change as a result of the AP advising program?

RQ6: To what extent did SLHS advisors' perceptions of their roles change after AP advising?

The research questions were addressed with a mixed method study that used a convergent parallel design (Creswell & Plano Clark, 2018). The quantitative survey included two instruments used in the literature about advising and mental health support for college students, respectively: The Inventory of Academic Advising Functions – Faculty (Allen & Smith, 2008) and the Gatekeeper Behavior Scale (Albright, Davidson, Goldman, Shockley, & Mitchell-Timmons, 2016). Original demographic questions were also added to learn about participants' number of years as faculty members, as faculty at the university, as advisors, as advisors at the university, and past participation in training related to advising and Kognito. A qualitative interview guide included questions that addressed both process and outcome evaluation constructs, with process questions aimed at the fidelity of participants' implementation of AP advising and outcome questions

focused on changes in participants' knowledge, use, and perceptions of AP advising after the intervention.

Survey data demonstrate subtle changes in participants' preparedness to identify and refer distressed students, and participants' perceived importance, responsibility, and satisfaction related to 12 academic advising functions. Most changes were not statistically significant, but triangulation with qualitative data suggest the practical significance of shifts in participants' pretest and posttest survey responses. Qualitative data offered a rich account of participants' lived experiences of AP advising and thematic analysis included initial rounds of a priori and emergent coding that were collapsed into three themes: start with the person, AP advising in teaching, and cura personalis: care for the whole person. All advisors discussed shifts in their advising sessions that included starting with questions about the students themselves, rather than beginning with course selection questions. One advisor said:

> Starting with what [classes] you're going to take, or what I think, that was my old way. … now I start with how are you today, how's it going, and if there's been anything on campus that you attended, did your family come down… what are you good at?

Additionally, advisors discussed generalizing AP advising strategies from advising into the classroom with students who are not necessarily advisees. An advisor said, "It's almost as if training us to be AP advisors has made us better instructors." Finally, the holistic approach of AP advising was reflected in the theme cura personalis: care for the whole person. Cura personalis is an ideal that is fundamental to Jesuit education and

includes attention educating the whole student, in body, mind, and spirit (Loyola University Maryland, n.d.). One advisor said:

> We are called academic advisors, but it's more than just the academic. It's the cura personalis, it's the whole person. That's what has struck me in this process.

AP advising is a strengths-based, mission-focused approach to advising students that helped SLHS advisors to shift their approaches from prescriptive advising with a focus on course selection, to a holistic and student-focused approach. One advisor wisely and simply said, "Don't start with the academics. Start with the person."

Implications for Practice

AP advising is one way to provide improved support for students on an individual basis. Students expressed the need to connect with SLHS faculty outside of the classroom and to be able to share their stress with faculty who understand the context of SLHS graduate school admission demands, and AP advising was designed to meet students' expressed needs. Through the process of planning, implementing, and evaluating the AP advising program, additional implications for practice were revealed. First, AP advising seemed to be successful and it would be worthwhile to continue to use the model for SLHS advising, and perhaps repeat the training for new SLHS advisors. A few advisors also suggested that the program be scaled-up by expanding out of the SLHS department and brought to the university level.

Additionally, several advisors also commented on the value of taking the time to connect with colleagues to reflect on advising practices. In the context of AP advising or other departmental initiatives, protecting and prioritizing time to engage in action and reflection cycles seems to be of interest to SLHS faculty. Finally, advisors spent some

time discussing the support systems and resources that are available to students on campus. Perhaps SLHS faculty could consider collaborating with colleagues in the student support offices to develop additional best practices for advising and providing emotional support to SLHS students. The stepped care model (Sobell & Sobell, 2000) suggests that students might benefit from less intensive, more normalized support that may not have to be provided by licensed mental health professionals. There might be a way to provide broad supports to all SLHS students, while some might still need additional more specialized intervention. Additionally, measuring the impact of AP advising on students' perceived stress would be beneficial.

Overall, given the initial success of AP advising, continuing and growing the program seems to make sense. Growth potential exists within and beyond the SLHS department, as SLHS advisors might be ready to move further along the appreciative advising cycle with their students. Advisors could also engage in more regular reflection with fellow SLHS faculty members and collaborate with colleagues in student support offices across the university to develop new ways to improve social support for SLHS students.

Chapter 1: Stress in Undergraduate Students Studying Speech-Language-Hearing Sciences

The first description of stress dates back over 100 years to Cannon (1914). Cannon began the examination of the effects of stress in medical literature when he described humans' reactions to threat as fight or flight responses. In 1936, stress was described as "a syndrome produced by diverse nocuous agents" (Selye, 1936, p. 32) in the context of laboratory experiments with rats exposed to various nocuous stimuli, such as cold and shock. The rats demonstrated physiological reactions of alarm, followed by an increased tolerance of the stimuli, and then alarm once again, suggesting variation in the rats' stress tolerance (Selye, 1936). Work by Cannon (1914) and Selye (1936) provided the foundation for Lazarus's (1966) seminal literature on stress. Lazarus borrowed from the field of physics, in which stress refers to the area impacted by a load (Hinkle, 1974). The definition of stress that endures is "an external load or demand on a biological, social, or psychological system" (Lazarus, 1993, p. 2). The broad and inclusive definition invites study about stress across disciplines and subjects, including humans who experience external demands that may cause physical and cognitive symptoms. For example, students are beholden to external demands placed on them by teachers and curricula, and the demands may be stressful (Beiter et al., 2015; Misra & McKean, 2000).

Physical and cognitive symptoms of stress emerge because of students' perceptions that they cannot manage the load, or demands placed on them (Lazarus & Folkman, 1984). When students are stressed, they may experience physical symptoms such as changes in sleep (Doom & Haeffel, 2013) and feelings of anxiousness and

nervousness (Cooke, Barkham, Audin, Bradley, & Davy, 2004) as well as cognitive effects that include the presence of intruding thoughts that impact students' ability to attend to tasks and learn (Baddeley, 2012; Cowan, 2010; Klein & Boals, 2001). Demands related to schoolwork may be cognitive and noncognitive in nature.

Cognitive demands are intended to develop and assess students' intellect and processing skills through subject-matter content such as assignments, exams, and standardized tests (Messick, 1979). Fonteyne, Duyck, and De Fruyt (2017) define cognitive ability as "a construct related to fluid intelligence" (p. 35) that may be used to predict future academic success (e.g., Scholastic Aptitude Tests). Noncognitive attributes include characteristics that influence learning such as attitude, motivation, beliefs, coping strategies, interests, and curiosity (Messick, 1979). Learning also depends on noncognitive factors such as students' time-management, study skills, and organization (Farrington et al., 2012). Undergraduate students shoulder cognitive and noncognitive demands related to academic work, and additional demands include financial and social obligations, and career planning.

Most students who major in speech-language-hearing sciences (SLHS) complete undergraduate coursework in preparation for careers in speech-language pathology (SLP). A master's degree is required to practice SLP (American Speech-Language-Hearing Association; ASHA, 2016), and SLHS students must earn high undergraduate grade point averages (GPAs) to be competitive applicants for admission to a master's program. The favorable employment outlook for SLPs (ASHA, 2015) attracts students to the field. According to the Bureau of Labor Statistics (2017), the projected growth of SLP employment from 2016-2026 is 18%, which is higher than the 7% anticipated

growth of all occupations. Additionally, the demand for SLP services is growing for patients across the lifespan, from premature infants to geriatrics (ASHA, 2017a), and makes the field attractive to aspiring professionals and increases competition for graduate admission. The graduate admission process is selective because of the high number of applicants relative to the available seats in graduate programs (Halberstam & Redstone, 2005; Tekieli Koay et al., 2016),

Despite the large applicant pool, SLP graduate programs remain small. A survey of 232 SLP graduate programs found that insufficient clinical placements, insufficient student funding, competing demands on faculty time, and insufficient number of faculty, respectively, impact programs' potential enrollment (The ASHA Leader, 2015). ASHA mandates that graduate students accrue 375 clinical clock hours across a variety of settings and populations to be eligible for certification (ASHA, 2016). Finding clinical opportunities for students is the most significant challenge to expansion of SLP graduate programs, and ASHA revised the certification standards in 2016 to allow up to 20% of clinical hours to be accrued using clinical simulation methods such as standardized patients, mannequins, and computer-based interactive patients (ASHA, 2016). The impact of the revision is evident in emerging literature reporting increasing use of simulation in SLP graduate programs (Dudding & Nottingham, 2018; Ellis, 2017; Towson, Taylor, Tucker, Paul, & Pabian, 2018). However, despite the recent expansion of clinical simulation, competition for seats in SLP graduate programs remains intense. Not surprisingly, Tekieli Koay et al. (2016) report that undergraduate students must earn high GPAs and Graduate Record Exam scores to be admitted, and academic demands are

relevant factors related to undergraduate students' stress (Beiter et al., 2015; Economos, Hildebrandt, & Hyatt, 2008; Garett, Liu, & Young, 2017).

Examination of the literature suggests that undergraduate students are stressed (e.g., Beiter et al., 2015; Garret, Liu, & Young, 2017; Lee, Wuertz, Rogers, & Chen, 2013; Liu, Stevens, Wong, Yasui, & Chen, 2018) and Robotham (2008) reports the need for additional research on stress in undergraduate students. Mainstream media also reports college students' declining mental health, such as a recent article in Berkeley News (Kane, 2019) reporting preliminary results of a study that found the anxiety rates of students at Berkeley have doubled since 2008 and that anxiety is becoming an epidemic on college campuses. Liu et al. (2018) found correlations between college students' stress and diagnoses of anxiety, depression, and suicidality, suggesting the relationships between student's stress and mental health. Glass (2019) wrote an editorial in Inside Higher Ed that noted university counseling centers are overbooked and cannot accommodate the vast numbers of students who need mental health help, and proposes a campus community-based model of authentic conversation among students about the impact of mindsets like loneliness, perfectionism, and competition on their mental health. Additionally, National Public Radio recently aired an interview with Dr. Anthony Rostain about rising stress in current college students related to finances, adjustment, parental pressure, and managing anxiety (Gross, 2019).

Students' stress and mental health are also recognized among SLHS faculty in the list serv for ASHA's special interest group for higher education, as noted in April 2019 posts about stress and anxiety in SLHS students and its impact on faculty (Coleman, 2019; Terrell, 2019). Additionally, the university in this study is a Jesuit school, and

students' mental health and wellbeing was the cover story and primary focus of the Fall 2018 edition of Conversations on Jesuit Higher Education, a periodical for Jesuit higher education. Topics such as building community (Howell, 2018), metal health stigmas (Houser, 2018), counseling centers' work in the Jesuit tradition (Parcover, 2018), and using technology as a medium for social health (Pascual-Ferra, 2018) were examined in the issue and suggest the urgency with which higher education professionals should consider the students' stress and mental health in the Jesuit context. The study of stress in SLHS students is particularly warranted because there is a void in the literature on SLHS-specific stress. Studies of related allied health fields that include clinical work with patients, such as dentistry (Alzahem, Van der Molen, & DeBoer, 2013; Dahan & Bedos, 2010), physical therapy (Jacob, Itzchak, & Raz, 2013; Macauley & Plummer, 2017) and nursing (Jacob et al., 2013) provide evidence of the problem of stressed students in pre-clinical programs, but the SLHS-specific literature is limited.

Problem of Practice

Current undergraduate students are stressed (Beiter et al., 2015; Garret, Liu, & Young, 2017; Lee et al., 2013). Stress may impact students' mental health and increase students' likelihood of anxiety, depression, and suicidality (Liu et al., 2018). Additionally, when stressed, students must inhibit intruding stress-related thoughts that occupy their working memory (i.e., cognitive load) in order to permit new learning (Klein & Boals, 2001). The presence of intruding thoughts and the demands of inhibition impact students' cognitive capacity for processing and storing new information (Baddeley, 2012; Cowan, 2010). Students report a number of factors related to stress, including academic expectations, financial obligations, and graduate school. Academic

expectations (Garett et al., 2017; Jacob et al., 2013) may be cognitive, such as tests and papers (Komarraju et al., 2012) and non-cognitive, such as time management and motivation (Bandura, 1997; Verrell & McCabe, 2015). Financial obligations include costs associated with tuition, room, and board, and loan repayment (Berg-Cross & Green, 2010; Britt, Canale, Fernatt, Stultz, & Tibbets, 2015). Additionally, undergraduate students who study SLHS in preparation for careers in SLP must earn high grades for graduate admission (Tekieli Koay et al., 2016) and learn to manage their stress in preparation for clinical practice (Delany et al., 2015). Students who study SLHS at a small, Jesuit, liberal arts university in the Mid-Atlantic may experience stress due to competition for graduate admission, which includes academic, financial, and, social factors.

Theoretical Framework

The ecological systems theory (EST) is a theoretical framework that was developed by Bronfenbrenner (1979) to describe children's relationships within their environments. Depicted as a nested series of concentric circles, Bronfenbrenner placed the child, or focal individual, inside the innermost circle. The people with whom the child has direct relationships (e.g., parents, teachers, friends) are depicted in the next circle as microsystems. When people in the child's microsystems have relationships with each other, they are considered mesosystems (e.g., a child's parents and teacher). Moving outward, exosystems are the people involved in creating policies and rules that impact the child, but with whom the child does not have direct involvement. For example, curriculum decisions made by the child's school district affect the child's daily experience in school, but the child is not involved in curriculum development.

Macrosystems are the next circle in EST, and they depict the broad, societal settings of the child, such as cultural perspectives on education. Lastly, Bronfenbrenner added chronosystems to his original nested model to depict the influence of the passage of time on the nested systems (Bronfenbrenner, 1994).

EST provides a framework through which to systematically investigate the factors related to stress in undergraduate students, who are the focal individuals in this study. Figure 1.1 depicts the focal individual as an SLHS student with EST systems as concentric circles around the student.

Figure 1. Ecological Systems Theory

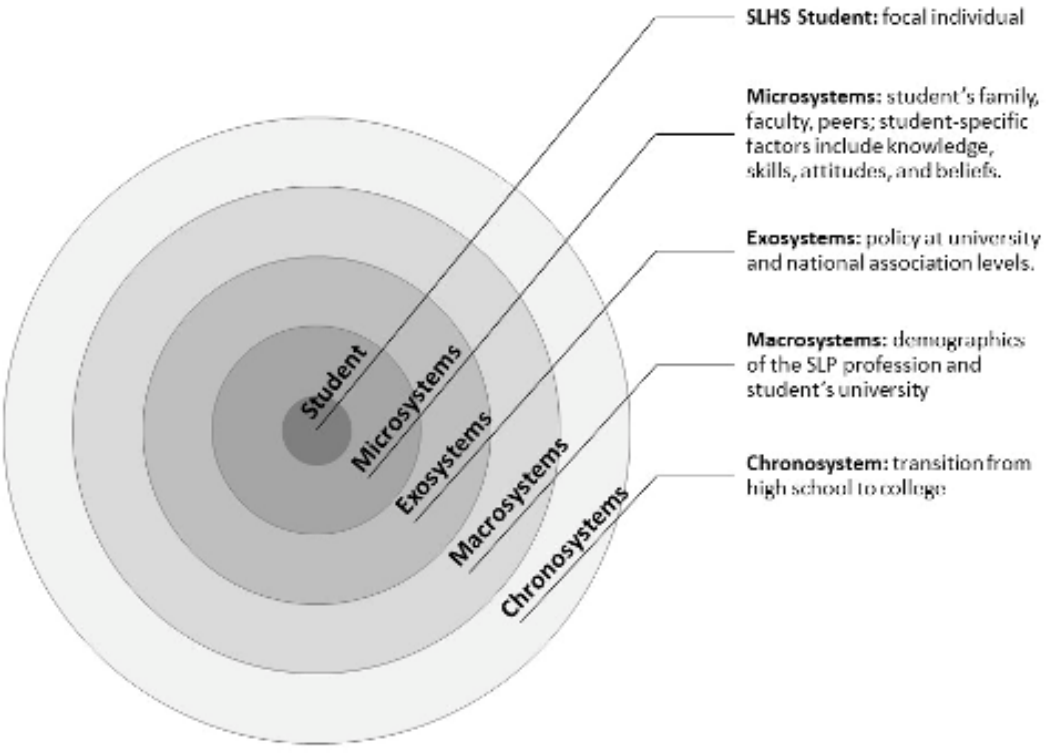


Figure 1. Ecological systems theory depiction. Concentric circles depict the systems that influence the SLHS student.

Considering EST from the outermost circle to the individual student, the chronosystem factors that impacts SLHS students' stress are the transitions from high school to college, and from college to graduate school. Moving closer to the focal individual, the culture of the SLP profession and students' university campuses are macrosystem factors that impact undergraduates' stress. The exosystem includes policy at the university and national association levels. Lastly, the concentric circle closest to the student depicts microsystems. Microsystems include the influences of family, faculty, peers, and factors related to the students themselves, such as their knowledge, skills, attitudes, and beliefs. Collectively, microsystems encompass the most salient factors related to undergraduate students' stress (Adebayo, 2008; Kahn, Kasky-Hernandez, Ambrose, & French, 2017; Posselt & Lipson, 2016).

Factors Related to Stress in Undergraduate Students

This section will review the literature related to undergraduate students' stress using the EST framework (Bronfenbrenner, 1979). The macrosystem (i.e. demographics and culture) and exosystem (i.e., policies) and will be examined, followed by a detailed investigation of microsystems related to undergraduate students' stress.

Macrosystem Factors

The demographics of the field of SLP, dominated by non-minority females (ASHA, 2017b), is a relevant macrosystem that influences students studying SLHS. Males constitute only 3.7% of SLPs, and 7.9% of ASHA-affiliated professionals (i.e., SLPs, audiologists, associates, certificate holders) reported that they are members of racial minority groups (ASHA, 2017b). Similarly, 95.3% of students who earned undergraduate degrees in SLHS were female, and 84.7% were White (ASHA, 2011).

This dominance of females is relevant because female undergraduate students experience more stress than male undergraduates (Economos et al., 2008; Misra & McKean, 2000; Thompson & Lougheed, 2012). Specifically, female students reported higher levels of academic stress and less perceived academic competence than their male peers (Economos et al., 2008).

In addition to the demographics within the field of SLP, the culture of the university campus also impacts students. The campus culture related to mental health help-seeking is particularly important to the study of undergraduate students' stress. Campus culture includes mental health stigmas, or students' perceptions of negative feelings about their mental health concerns expressed by peers, faculty, and the campus community (Chen, Romero, & Karver, 2016). Perceived campus stigma was associated with students' personal stigma about mental health help-seeking, suggesting the influence of perceived campus culture on students' own beliefs about mental health help-seeking (Chen et al., 2016). Further, undergraduates who participated in focus groups about their experiences of stress and stress management reported that seeking help would cause shame and embarrassment because peers and faculty members would be judgmental and make assumptions about the severity of symptoms (Harris, Casey, Westbury, & Florida-James, 2016). Additionally, students may experience barriers to treatment, such as perceptions that faculty members are inconvenienced by assisting students who need help (Chen et al., 2016).

System-related barriers to mental health treatment were explored by Marsh and Wilcoxon (2015) who also found an association between underutilization of campus mental health support (e.g., counseling centers) with stigma, students' awareness of

services, and students' perceptions of cost, time, and transportation needed to seek help. Cost was the strongest predictor of underutilization of services, and although many universities offer mental health services free of charge or at a low cost, the students might perceive higher costs due to the expense of health care in general (Marsh & Wilcoxon, 2015). Students' perceptions of the cost and stigma associated with mental health suggest that the university culture does not embrace help-seeking, which may deter students from seeking needed help (Chen et al., 2016; Harris et al., 2016; Marsh & Wilcoxon, 2015). A university's culture may be dictated by its policies that demonstrate the priorities of the administration in the allocation of funding, staff, and resources.

Exosystem Factors

Policies at the federal, state, and university levels, such as those related to finance, mental health services, and graduate admissions criteria, impact undergraduate students' stress. College tuition continues to rise, despite the recession and national economic fluctuation (Ginder, Kelly-Reid, & Mann, 2016). To afford college post-recession, many students rely on financial aid and loans (Avery & Turner, 2012; Best & Keppo, 2014; Britt et al., 2015; Despard et al., 2016). Public (i.e., federal and state) appropriation of student financial aid decreased by 11%, after inflation adjustment, from 2005-2006 to 2015-2016 (The College Board, 2017), and increased the financial burden of college costs for students and their families. Student surveys about financial stress revealed students who had loan amounts in the median range were more stressed than their peers with lower loan amounts (Britt et al., 2015). Additionally, students with high debt worry (i.e., concern about their debt) scored worse on scales of mental health than students with low debt worry (Cooke et al., 2004).

Universities also have policies concerning the direction of resources toward the provision of mental health support for students. The incidence of stress in undergraduates rose steadily from 1966-1995 (Sax, 1997) and continues to be high today (Beiter et al., 2015; Garett et al., 2017; Misra & McKean, 2000; Liu et al., 2018), suggesting the need for policies and resources devoted to the provision of mental health services. Additionally, Cragg (2009) proposed a relationship between the congruence of students' qualifications and the university's expectations, coupled with the institutions' graduation rates.

If universities admit students whose background and preparation (e.g., academic, social, economic) are not commensurate with institutional rigor and expectations, the students may be more susceptible to mental health concerns that require support (Cragg, 2009). Graduate admission is particularly relevant for students who seek degrees in SLP because they must earn a master's degree to practice. Admission to graduate programs for SLP is more selective now than in the past (Tekieli Koay et al., 2016) because the profession of SLP is growing and there are ample employment opportunities within the field (ASHA, 2017a; ASHA, 2017b; Bureau of Labor Statistics 2017).

The number of undergraduate SLHS majors is increasing (ASHA, 2015). However, there are not enough seats in graduate programs to accommodate the number of undergraduate applicants (Tekieli Koay et al., 2016), and the graduate admission process is a bottleneck in the path to becoming an SLP. Policies regarding GPA, scores on the Graduate Record Exam, letters of recommendation, and resumes determine which applicants will be considered by the SLP admissions committees (Halberstam &

Redstone, 2005). Graduate admission is an understandable source of stress for undergraduate students studying SLHS.

ASHA (2015) also influences SLHS students' undergraduate experiences because it determines three domains of knowledge and skills that undergraduate students should acquire before applying for graduate studies. The first domain includes opportunities for students to gain general knowledge, critical thinking skills, cultural competence, and understanding of fundamental research and the scientific method (ASHA, 2015). The second domain focuses on content-specific knowledge and skills in content areas other than SLHS, such as the physical and natural sciences, statistics, and the social sciences (ASHA, 2015). Finally, the third domain includes coursework specific to the field of SLHS, such as phonetics, anatomy and physiology, speech science, hearing science, and speech and language development (ASHA, 2015). The influence of ASHA's policies on undergraduate education strongly impacts students' course selections and the rigor of their academic curricula.

Microsystem Factors

Microsystem factors that may influence undergraduate students' stress include family, peers, and faculty relationships, as well as characteristics of the students themselves. Students' characteristics include minority status, financial status, digital native status, cognitive and noncognitive skills. Students' attitudes, beliefs, and behaviors are also relevant microsystems in the study of undergraduate students' stress.

Family influences. Long before students arrive at college, relationships with their families and parents are influential, and familial influence remains a relevant factor during college as well. From the first week of college, familial attachment may impact

students' stress levels associated with the transitioning from high school to college (Kahn et al., 2017). Separation-individuation is the process that occurs when students separate from their families and then develop a sense of individual strength and independence, which are integral to the college adjustment process (Mattanah, Hancock, & Brand, 2004).

When students have strong, healthy attachments to their families, they tend to rely on their families for support during the transition to college that facilitates separation and individuation (Kahn et al., 2017). Additionally, students who disclosed their stress to family members were less likely to escalate from experiencing stress to symptoms of depression and anxiety (Kahn et al., 2017). Parenting styles may influence students' relationships with their parents. All students who are currently between the ages of 18-25 are considered both Millennials, or Generation Y, (i.e., born between 1981 and 2000) and part of Generation Z (i.e., born between 1994-2012) (Swanzen, 2018), and one defining characteristic of millennial students is that many of their parents used a helicopter parenting style (Odenweller, Booth-Butterfield, & Weber, 2014).

Parenting style. Helicopter parenting refers to parents who hover over their children and make decisions, communicate constantly, and are overinvolved in their children's lives, even when the children are young adults in college (Darlow, Norvilitis, & Schuertze, 2017; Odenweller et al., 2014). Although the term is relatively new, helicopter parenting has roots in established parenting practices (Padilla-Walker & Nelson, 2012). Baumrind (1966) produced the seminal research on "prototypes of adult control" (p. 889) when she defined parenting practices as permissive, authoritarian, or authoritative. Synthesis of Baumrind's (1966) work includes three categories of features

found in varying degrees within most parenting practices: support to the child, behavioral control, and autonomy granting (Padilla-Walker & Nelson, 2012). A study of undergraduate students by Love and Thomas (2014) suggested permissive and authoritarian parenting are associated with low levels of self-esteem and emotional well-being, while authoritative parenting relates to students' high levels of self-esteem and well-being. Students' emotional well-being predicted their academic adjustment in college (Love & Thomas, 2014).

Helicopter parents tend to limit their children's autonomy by exhibiting disproportionate support and behavior control (Odenweller et al., 2014; Schiffrin et al., 2014). Limited autonomy during childhood inhibits the development of problem-solving and coping skills (Odenweller et al., 2014). When students with helicopter parents get to college, they are ill-equipped to manage the multitude of stressors inherent in undergraduate life, such as academic work, living away from home, and navigating a new social network (Odenweller et al., 2014). Higher levels of helicopter parenting (i.e., parents who are more highly involved in their children's lives) were associated with undergraduate students' depression symptoms, lower self-efficacy, and lower levels of academic and social adjustment (Darlow et al., 2017). Helicopter parenting has a negative effect on students' abilities to cope with stress (Odenweller et al., 2014). Parental influence on undergraduates extends beyond parenting style and includes parents' levels of education.

Parent education. Students whose parents did not attend college are considered first-generation college students (Peteet, Montgomery, & Weekes, 2015). Parents of first-generation students do not have first-hand experience with the culture of college and

may have difficulty supporting their children as they transition to college and learn to live away from home, manage a new social scene, and meet rigorous academic demands (Jenkins, Belanger, Connally, Boals, & Duron, 2013; Stephens, Hamedani, & Destin, 2014). First-generation students may experience a strong sense of pride as the first members of their families to attend college (Winkle-Wagner, 2009), and they may also experience academic acculturative stress or stress associated with getting used to the academic rigor and expectations in college (Jenkins et al., 2013). Academic acculturation is particularly challenging for first-generation students, who grew up in homes with parents with less education than the students themselves (Jenkins et al., 2013). However, the literature is not entirely consistent, as Shields (2002) found minimal differences in stress levels between first- and second-generation college students' stress levels and academic performance.

Being the first to attend college may also create feelings of unease and disconnection from both family and the campus community for first-generation students, who may experience imposter phenomenon (Peteet et al., 2015). Students with imposter phenomenon attribute their success to luck and circumstance, and do not credit their own skills and hard work (Peteet et al., 2015). Students with imposter phenomenon may feel inadequate and afraid that others will discover their perceived inadequacy and concur that they do not belong in college (Peteet et al., 2015). First-generation students may be particularly wary of interactions with faculty, and they tend to avoid individual meetings that might be beneficial to receive faculty support (Stephens et al., 2014). Faculty and peers are potential sources of both support and stress for undergraduate students.

Peer factors. Peer relations among undergraduates are a complex and essential component of the college experience. Students may compete with their peers, and competition can cause stress and other mental health conditions such as anxiety and depression (Posselt & Lipson, 2016). Students also rely on peers for friendship, social support, and stress relief (Lee & Goldstein, 2016; Renn & Arnold, 2003; Yorgason, Linville, & Zitzman, 2008).

Navigating a new social scene is part of the college experience, and students' peers may include classmates, roommates, teammates, and co-members of clubs and activities (Renn & Arnold, 2003). In a study by Welle and Graf (2011), undergraduate students reported that losing old friendships, breaking up prior relationships, experiencing difficulty with roommates, and dating concerns were stressors in their lives. However, Thomas (2000) found that undergraduates' peer interactions are generally positive experiences and that students with broad social networks (i.e., ties to peers beyond immediate groups of friends) were more likely to persist in college. Students with weaker ties within their close groups of peers were less likely to persist (Thomas, 2000), suggesting the positive power of undergraduate students' peer relationships. Additional benefits of strong peer relationships include sharing stress management strategies, such as experiences with university services like counseling centers (Yorgason et al., 2008). Students may also benefit from the positive influences of peers' educational ambitions (Renn & Arnold, 2003), which is particularly relevant for SLHS students, all of whom must attend graduate school to practice SLP.

Admission to graduate school for SLP is competitive (Halberstam & Redstone, 2005) and research is emerging about the impact of academic competition on

undergraduate students. Posselt and Lipson (2016) conducted the first large-scale study of undergraduates' experiences of competition, anxiety, and depression across disciplines. The study used data from the 2007-2013 Healthy Minds Study, an annual online survey administered to undergraduate students (Healthy Minds Network, 2007-2013). The sample of 40,350 undergraduate students completed online surveys with questions about mental health, related issues, and their use of services for their mental health concerns. In response to the question, "How would you rate the overall competitiveness between students in your classes?" (Posselt & Lipson, 2016, p. 977), students who answered with the highest level of perceived competition, "very competitive," demonstrated significantly higher associations with anxiety than students who experienced less peer competition. Students who perceived intense competition were 70 percent more likely to experience anxiety and 40 percent more likely to experience depression than students who did not experience academic competition (Posselt & Lipson, 2016).

Additionally, Posselt and Lipson (2016) found that students in the social sciences (universities typically classify SLHS as a social science or natural science) were more likely to experience anxiety with competition, whereas in other fields, such as engineering, students were more likely to experience depression with competition. Posselt and Lipson's study expanded on work by Lipson, Zhou, Wagner, Beck, & Eisenberg (2016) that demonstrated distinctions in mental health among students by field of study, though not explicitly related to competition. Lipson et al. also found that both social science students and natural science students were more likely to experience depression or anxiety than students in business and public health programs. Posselt and

Lipson suggest that social science students may experience increased competition due to the nature of their fields (e.g., graduate admissions for SLP) and also perhaps due to the nature of the students who are attracted to certain fields of study (e.g., highly motivated, competitive by nature). Regardless of the etiology, competition may complicate undergraduates' peer relationships.

Faculty Factors. In addition to peer influence, interactions with faculty members are relevant to the study of undergraduate students' stress. Communication between students and faculty is important to establish clarity about students' experiences of stress, as a disconnect may exist between students' perceived stress and faculty's observation of students' stress (Misra, McKean, West, & Russo, 2000). Faculty may overestimate students' stress because their interactions could be limited to classroom settings, but in the absence of interactions with students outside of class, faculty would not necessarily know if students' stress is limited to class (Misra et al., 2000).

Interactions outside of class are valuable to establish relationships between faculty and students. Hurtado et al. (2011) investigated the impact of student and faculty relationships for underrepresented students in the sciences and described a "tenuous balance between rigor and support" (p. 573) that characterized interactions in stressful academic environments. Hurtado et al. (2011) found that students who attended less selective universities were more likely to interact with faculty than students who attended highly selective universities, and that regardless of selectivity, students were more comfortable attending office hours of faculty who seem inviting and approachable in class. Students who established relationships with faculty members felt more supported and had a stronger sense of belonging (Hurtado et al., 2011).

Hurtado et al.'s (2011) study suggests the importance of faculty's attention to demeanor, and to extending explicit invitations for students to stop by office hours and establish relationships. The benefits of faculty and student relationships outside of class are also demonstrated in the literature about living-learning communities, in which first-year students live with and take courses with the same students, and they participate in enrichment opportunities outside of class to foster deep relationships with faculty and peers (Arensdorf & Naylor-Tincknell, 2016). Students who developed strong relationships with faculty remarked on elements of academic and nonacademic support, mentoring, approachability, and friendliness that helped students to succeed and thrive in college (Arensdorf & Naylor-Tincknell, 2016). Perhaps similar benefits could be realized with deliberate attention to faculty and student relationships outside of the living-learning community model. Furthermore, in addition to developing relationships with students outside of class, faculty who perceive students' stress may provide in-class instruction designed to facilitate students' success through activities like self-reflection (Adebayo, 2008). Students' relationships with peers and faculty may also relate to the students' individual characteristics.

Student characteristics. Student characteristics such as belonging to a minority ethnic group, financial burdens, digital native status, academic and nonacademic factors, and students' attitudes and beliefs are additional pertinent microsystem factors in the examination of undergraduate students' stress. Although they are considered distinct factors, the factors may co-occur and simultaneously influence college students. For example, all current undergraduates between the ages of 18 and 22 are digital natives (Gray, Vitak, Easton, & Ellison, 2013), and they also have varying ethnicities, economic

backgrounds, attitudes, and beliefs. The intersectionality of factors may double the stigmatization that some students experience (Jury et al., 2017).

***Minority status*.** Minority students' college experiences may be affected by racial stigma (Hope, Chavous, Jagers, & Sellers, 2013). In college, public stigmas are the negative external influences of the campus community, and public stigmas may affect students' self-stigmas and attitudes (Vogel, Bitman, Hammer, & Wade, 2013), and increase the stress felt by stigmatized students (Lewis, Mendenhall, Harwood, & Huntt, 2013). Stigmatized students may have reactions like academic identification (i.e., connecting self-worth with academic achievement) or academic dis-identification (i.e., separating self-worth from academic achievement) as a result of stigma on campus (Hope et al., 2013).

Academic identification may compel some African American students (Hope et al., 2013) and Latina students (Mount, 2015) to perform at a high academic level to disprove racial stereotypes suggesting they are less capable of academic success than non-minority peers, and their sense of self-worth relates directly to their academic achievement. Alternatively, other students may protect themselves by deliberately separating their self-worth from their academic achievement, thereby neither feeling the pressure to disprove the stereotype by overachieving nor perpetuating the stereotype if they are less successful (Hope et al., 2013). The psychological demands of academic identification and dis-identification compound stress levels for minority students as they either ignore or actively resist the stigmatic messages projected on campus (Hope et al., 2013; Mount, 2015).

Similarly, female African American students (Fischer, 2007; Winkle-Wagner, 2009) and Latina students (Fischer, 2007; Mount, 2015; O'Neal et al., 2016) report conflicting sentiments of homelessness at predominantly White institutions. Minority students may feel like they do not fit within the student body, and since many are first-generation college students, their status as college students means they no longer fit at home either (Fischer, 2007; Mount, 2015; O'Neal et al., 2016; Winkle-Wagner, 2009). Disassociation (i.e., cutting ties) from one's family is a constant challenge for minority students because traditional, female kinship roles include active participation and caregiving of family members that conflict with going away to college (Mount, 2015; Winkle-Wagner, 2009). Most African American students felt their disassociation decisions were difficult, persistent, and stressful (Winkle-Wagner, 2009), and Latina students specifically reported being part of the Deferred Action for Childhood Arrivals program and financial barriers were two causes of their stress in college (O'Neal et al., 2016).

Financial burden. The expense of higher education is stressful for undergraduate students (Berg-Cross & Green, 2010; Guo, Wang, Johnson, & Diaz, 2011; O'Neal et al., 2016). Students studying SLHS, physical therapy, and nursing in Israel all rated finances as the second highest factor to academics related to their stress, suggesting financial concerns are stressful to international allied health students (Jacob et al., 2013). In the U.S., tuition, room, and board costs continue to rise (Ginder et al., 2016), and financing higher education may be challenging and burdensome for students (Berg-Cross & Green, 2010).

Both tuition and room and board increased about 4% from 2013-2014 to 2015-2016 at public and private non-profit universities (Ginder et al., 2016). The total annual cost of tuition, fees for room, board, books, and supplies, and other expenses (e.g., transportation, laundry, entertainment) for students attending public universities was approximately $33,130 in 2016 (Ginder et al., 2016). The total annual cost for students attending private non-profit institutions was approximately $40,252 in 2016 (Ginder et al., 2016).

To afford college post-recession, many students rely on financial aid and loans (Avery & Turner, 2012; Best & Keppo, 2014; Britt et al., 2015; Despard et al., 2016). Student surveys about financial stress revealed students who had loan amounts in the median range were more stressed than their peers with lower loan amounts (Britt et al., 2015). Additionally, students with high debt worry (i.e., concern about their debt) scored worse on scales of mental health than students with low debt worry (Cooke et al., 2004). Financing college is not a new challenge, as generations of students and families have dealt with the concern of tuition costs. However, the influence of digital technology is a relatively new consideration within the study of college students.

***Digital natives*.** Current, traditional (i.e., matriculated from high school directly to college) undergraduate students are digital natives whose college experience includes the Internet (Chen & Peng, 2008; Chen & Tzeng, 2010; Gray et al., 2013; Thompson & Lougheed, 2012). A study by Chen and Peng (2008) used data from a large national survey administered to college juniors in Taiwan that asked students about hours of Internet use each week, academic performance, interpersonal relationships, and psychosocial adjustment. The authors divided the 49,000 college junior participants into

groups of heavy Internet users (i.e., spend more than 33.97 hours online weekly) and nonheavy Internet users (i.e., spend less than 33.97 hours online weekly). Both male and female heavy Internet users had significantly higher scores of loneliness, physical illness, and depression than nonheavy users, with females scoring higher on the depression scale (Chen & Peng, 2008).

Chen and Peng (2008) did not distinguish between the online activities carried out by the students in the study. However, Chen and Tzeng (2010) delved further into the data to determine what the students were doing online (i.e., academic searches, nonacademic searches, chatting with friends, shopping, checking email) and found that female heavy users spent the most time searching for academic and nonacademic information while chatting with friends online, while the majority of male heavy users spent their time playing games online. A study conducted in the U.S. found that female students reported heavier use of Facebook than their male peers (Thompson & Lougheed, 2012), further suggesting that females tend to use their time online to connect with people.

An additional study of first-year college students in the U.S. found that the number of students' Facebook friends who were fellow students at the university predicted social adjustment more than the number of actual friends, suggesting the importance of an online network of university friends to connect socially, learn about campus events, and engage in activities together (Gray et al., 2013). The relationship between students' Internet use, social adjustment (Gray et al., 2013), and mental health (Chen & Peng, 2008; Chen & Tzeng, 2010) are emerging in the literature, and warrant further study because of the increasingly pervasive presence of digital influences in

undergraduate students' lives. While digital native research emerges, academic factors related to undergraduate students' experiences are already prevalent in the literature (e.g., Beiter et al., 2015; Economos et al., 2008; Garett et al., 2017).

Cognitive factors. Prospective college students' cognitive (i.e., academic) knowledge and skills, measured by transcript review (i.e., high school course titles), high school GPA, and standardized test scores, are used by admissions committees as predictors of students' college readiness (Conley, 2007; Komarraju, Ramsey, & Rinella, 2012). Evidence of a relationship between GPA, test scores in high school and academic success in college varies (Conley, 2007; Farrington et al., 2012; Komarraju et al., 2012). A study by Schmitt et al. (2009) reported that test scores and high school GPA are strong predictors of college GPA, and Sackett, Kuncel, Arneson, Cooper, and Waters (2009) also found that test scores correlated with college GPA. However, Adebayo (2008) suggested that high school GPA is a stronger predictor of college GPA than test scores. According to Komarraju et al. (2012), high GPA in high school associated with high college GPA more than high test scores alone. Additionally, students with high GPAs and lower test scores in high school earned higher college GPAs than students with low GPAs in and higher test scores in high school (Komarraju et al., 2012).

Students' academic preparation for college is a relevant microsystem to examine in the context of stress because academic expectations are a widely noted source of stress for undergraduate students (e.g., Beiter et al., 2015; Economos et al., 2008; Garett et al., 2017). Undergraduate students studying SLHS specifically acknowledged their academic stress (Jacob et al., 2013). Further, because SLHS students must earn a master's degree before professional practice, academic stress is a potential longstanding

problem. Stress related to academic expectations is also evident in the literature about students in allied health fields such as dentistry (Alzahem et al., 2013; Dahan & Bedos, 2010), physical therapy (Jacob et al., 2013; Macauley & Plummer, 2017), and nursing (Jacob et al., 2013). Cognitive factors such as GPA and test scores are joined by noncognitive factors to provide a comprehensive picture of undergraduate students as learners.

Noncognitive factors. Noncognitive factors include self-regulated learning (SRL), self-efficacy, and cognitive load. Self-regulation refers to self-directed processes that facilitate students' learning (Zimmerman, 2002). SRL strategies such as time management, motivation, and goal-setting empower students to be active learners by taking control of their learning (Nota, Soresi, & Zimmerman, 2004; Zimmerman, 2002). SRL benefits students across subjects, and students with strong SRL skills in high school may transfer the skills to college (Nota et al., 2004) and beyond to graduate studies and professional life (Verrell & McCabe, 2015; Zimmerman, 2002). Students' use of SRL strategies is related to self-efficacy (Bandura, 1997).

Self-efficacy refers to students' beliefs that they can learn (Bandura, 1997). Students may have a set of academic skills, but if they cannot or do not use the skills at the appropriate times and in the right ways, the skills are ineffective. Students' beliefs that they have the required skills, and the understanding and confidence to use them well, contribute to self-efficacy and influence students' learning (Bandura, 1997). Further, when students have a strong sense of self-efficacy, they are more likely to use SRL strategies, and when students lack self-efficacy, they are less inclined to try SRL strategies, thus inhibiting learning (Bandura, 1997).

The effect of self-efficacy on learning demonstrates that students' mindsets and metacognition (i.e., thinking about one's thinking) are influential factors in learning (Bandura, 1997). During learning, students' mindsets are influenced by the type and volume of material being learned, and may be negatively impacted by stress because of increased cognitive load (Klein & Boals, 2001).

Cognitive load, or working memory, is affected by undergraduate students' stress and anxiety (Klein & Boals, 2001). Working memory is information that can be held and used for cognitive tasks such as problem-solving, executive functioning, and learning (Cowan, 2014). Working memory has a limited capacity for processing and storing information that is necessary to maintain information within one's working memory (Cowan, 2010). Processing occurs when a person rehearses information to commit it to memory, while storage is analytical and may involve reorganizing or manipulating information to align it with other content in one's working memory (Baddeley, 2012; Cowan, 2010). When students experience stress, intruding thoughts may interrupt processing and storage, prevent learning of new information (Cowan, 2010; Klein & Boals, 2001), and impact students' academic success in college. Students' thoughts and perceptions are influential factors related to learning, finances, and self-care like sleep and exercise.

Health behaviors. Students' perceived stress is the physical and physiological effect of students' perceptions that they have a decreased ability to manage important events and expectations (Lazarus, 1966). The relationship between students' perceptions of their current finances on their mental health is well documented (Britt et al., 2015; Cooke et al., 2004; John-Henderson, Rheinschmidt, Mendozo-Denton, & Francis, 2014).

Financial stress is particularly relevant for students in allied health fields such as SLHS because they will incur expenses for graduate school after college. A longitudinal study conducted over three years in the United Kingdom found that undergraduate students' perceived economic debt and financial status impacted their mental health more than their actual economic standing (Cooke et al., 2004). Similarly, undergraduates with high perceived mastery of their finances were less stressed than students with low perceived mastery of their finances, and students with high perceived net worth were less stressed than their peers with low perceived net worth (Britt et al., 2015).

The literature is inconsistent about the relationship between students' class years and financial stress. Britt et al. (2015) found freshmen students experienced more financial stress than upperclassmen, while Guo et al. (2007) and Cooke et al. (2004) suggested upperclassmen tend to experience more stress related to economic factors than underclassmen. Regardless of class year, students who reported a high concern about their perceived financial state experienced both physical and psychological manifestations of stress, such as feelings of anxiousness and nervousness, susceptibility to criticism by others, and difficulty sleeping (Cooke et al., 2004).

The quality of undergraduate students' sleep is related to their perceived stress (Beiter et al., 2015; Doom & Haeffel, 2013; Garett et al., 2017; Lee et al., 2013; Thompson & Lougheed, 2012). Life stress is a strong predictor of undergraduates' poor health behaviors, including poor sleep (Doom & Haeffel, 2013). A study by Lee et al. (2013) used a naturalistic survey design in which undergraduates completed daily surveys for one week in the context of their normal lives, and the authors found a significant, positive correlation between students' perceived stress and disturbed sleep, fatigue,

physical, and depressive symptoms. Lee et al. questioned whether disturbed sleep is a cause or effect of stress, as did Thompson and Lougheed (2012), who found that female students lost more sleep and perceived more stress related to social media use than their male peers. Did students' stress cause difficulty sleeping, leading to social media use? Or did social media use at night cause loss of sleep, which then impacted stress? Causality is difficult to determine, but the relationship between sleep and stress seems to exist.

College students' stress also relates to their choices regarding exercise (Doom & Haeffel, 2013; Economos et al., 2008; Mount, 2015). Life stress predicted lack of vigorous exercise in a sample of undergraduate students who completed two surveys separated by four weeks (Doom & Haeffel, 2013). Yzer and Gilasevitch (2019) conducted a qualitative study with 53 students about their beliefs related to stress reduction and depression help-seeking, and nearly half (47.2%) of the students reported exercise as a way to manage stress, with organization and planning as the next highest strategy (15.1%). Another longitudinal study measured students' health behavior and perceived stress in August prior to freshman year, and again the following April, in the spring of their freshman year (Economos et al., 2008). Male and female students' minutes of exercise decreased from the first to second surveys, as their perceived stress increased (Economos et al., 2008). Latina undergraduate students at a predominantly White university who did not exercise cited discomfort working out among White peers as a deterrent (Mount, 2015), further supporting the intersectionality of physical and mental health. Undergraduates' health behaviors influence their stress, and suggest the need for stress management strategies.

Stress Management

The ways that students manage their stress vary (Bland, Melton, Welle, & Bigham, 2012). Students' ability to manage their stress is called stress tolerance, and stress tolerance strategies vary by gender (Welle & Graf, 2011). Although having control over one's personal life and feeling well supported were the top two coping factors for male and female students, the next preferred coping factors differed by gender (Welle & Graf, 2011). Male students reported the preference for satisfaction with their environment, getting eight or more hours of sleep, and having control over academics, while female students reported wanting enough social interaction, regular exercise, and leisure time as their lifestyle habits and coping strategies associated with stress (Welle & Graf, 2011). Examination of how different groups of students currently manage their stress, and whether or not the strategies are effective, is an important part of understanding the problem of stress in undergraduate students and should precede intervention.

Provision of support programs and mental health treatment is challenging because many undergraduates are hesitant to pursue help for mental health distress (Chen et al., 2016; Goguen et al., 2016; Marsh & Wilcoxon, 2015; Yorgason et al., 2008). Goguen et al. (2016) examined students' implicit attitudes about seeking help for mental health concerns by administering implicit association tests, or time-based computerized tests of association between words related to mental health and medical help seeking, with positive and negative words related to efficacy, honor, and humiliation. The authors also administered surveys to the student participants to assess explicit attitudes. Students' implicit and explicit attitudes were more negative about seeking help for mental health

than medical health concerns. Additionally, the students who had previously sought mental health treatment had more negative explicit attitudes than their peers who had not sought help, suggesting students may be less likely to seek help again (Goguen et al., 2016).

Summary

Following the synthesis of the research literature related to undergraduate students' stress, several factors arose that warrant further investigation through a needs assessment with SLHS students. First, academic factors are the most prevalent contributors to students' stress (Beiter et al., 2015; Economos et al., 2008; Garett et al., 2017) and have particular relevance for SLHS students because of graduate admission demands (Halberstam & Redstone, 2007; Tekieli Koay et al., 2016). Asking questions about students' stress related to coursework, academic challenges, and graduate admission will provide context-specific data to identify whether SLHS students have similar experiences to the findings in the literature about academics and stress.

Second, students' self-efficacy is related to academic performance (Bandura, 1997). Self-efficacy may also be influenced by helicopter parenting (Darlow et al., 2017). Questions about whether students feel they are capable of meeting academic demands (e.g., assignments, readings, group projects) might yield data that suggest the relationship between self-efficacy and academic performance in SLHS students. Students' perceptions of their financial obligations also emerged as a factor that relates to stress (Britt et al., 2015). SLHS students who go on to graduate school will incur debt beyond their undergraduate obligations and investigating the impact of finances on

students' stress with questions about undergraduate and graduate expenses would yield data to connect SLHS students' experiences with the literature.

Third, and more broadly, students' perceptions are at the core of their stress. The way students perceive their ability to manage demands placed on them determines their levels of stress (Lazarus, 1966). Questions about how students perceive stress, what happens when they are stressed, how they know when they are stressed, and how others know if they are stressed could provide information about students' self-perceptions regarding their stress. As students think about factors related to their stress, stress management strategies are the next natural area of inquiry. Questions surrounding students' awareness of resources, how to access resources, and their willingness to pursue help would yield data to contextualize the literature at the university in the study.

Finally, Cragg (2009) suggests that university personnel (e.g., faculty, administrators, and staff) should know their student population well to develop the most appropriate programming and support services to facilitate students' success and graduation. SLHS students' experiences, including perceived stress, academic and financial factors, self-efficacy, and stress management strategies, will guide the content of the needs assessment. Aligning the literature with contextual data from the needs assessment will facilitate analysis and interpretation to ultimately inform an intervention for stress in SLHS students.

Chapter 2: Needs Assessment

Purpose of the Study

The impact of stress on learning (Klein & Boals, 2001), the pressure associated with graduate admission (Halberstam & Redstone, 2005), and the effects of stress on clinical work (LeBlanc, 2009) suggest the relevance of studying stress in SLHS students. Studies of related allied health fields such as dentistry (Alzahem et al., 2013; Dahan & Bedos, 2010), physical therapy (Jacob et al., 2013; Macauley & Plummer, 2017) and nursing (Jacob et al., 2013) provide evidence of the problem of stressed students in pre-clinical programs, but there is a void in the literature on stress in college students studying SLHS.

This empirical needs assessment relied on mixed methods, using a quantitative questionnaire and qualitative focus groups to examine stress in undergraduate students studying SLHS at a Mid-Atlantic university. Cragg (2009) suggests that university personnel (e.g., faculty, administrators, and staff) should know their student population well to develop the most appropriate programming and support services to facilitate students' success and graduation. Grounded in findings from related studies in the literature including perceived stress, academic and financial factors, self-efficacy, and stress management strategies, this needs assessment provided the opportunity to learn more about stress in the SLHS undergraduate student population at the university. Findings from the needs assessment analysis informed an intervention for stress in undergraduate SLHS students.

Methods

The needs assessment used a mixed methods, convergent parallel design, with simultaneous administration of the quantitative questionnaire and qualitative focus groups (Lochmiller & Lester, 2017). Pure quantitative and qualitative approaches, respectively, provide valuable data that may be limited in scope by the quantitative and qualitative designs (Johnson & Onwuegbuzie, 2004). Mixed methods research combines the strengths of quantitative investigation, such as deduction and objective, standardized data, with qualitative induction and naturalistic, contextual discovery (Johnson & Onwuegbuzie, 2004). The mixed methods approach provides comprehensive data and results that answer research questions thoroughly and without bias by an exclusively quantitative or qualitative method (Lochmiller & Lester, 2017). Mixed methods research is particularly useful in education because of its replicability (quantitative) and openness to the variability and depth of human experience (qualitative), which combine to produce comprehensive, scholarly, and meaningful results (Lochmiller & Lester, 2017).

Mixed methods were specifically selected for this study to develop a deep understanding of students' stress using established quantitative instruments and semi-structured focus group questions that permitted more candid and iterative student responses. The convergent parallel design included independent but concomitant administration and analysis of the quantitative and qualitative parts of the study, followed by synthesis of the results (see Figure 2.1). Synthesized results informed an intervention to improve SLHS students' experiences of stress.

Figure 2.1. Convergent Parallel Design

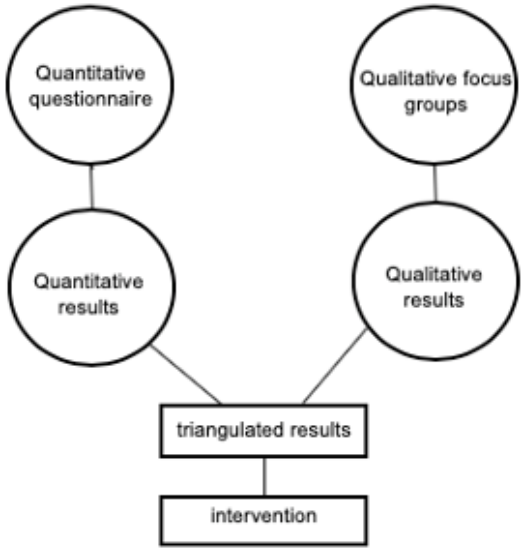


Figure 2.1. Convergent parallel study design. Circles on the left and right depict simultaneous administration of the quantitative questionnaire and qualitative focus groups, followed by separate analysis of quantitative and qualitative results, and subsequent synthesis through triangulation. Triangulated results informed the intervention.

Research Questions

The needs assessment addressed the following four research questions, based on empirical literature and contextual experience with stressed undergraduate students:

RQ1: What is the perceived stress level of undergraduate students studying SLHS?

RQ2: What factors do SLHS undergraduate students perceive are related to their stress?

RQ3: How do undergraduate SLHS students manage stress?

RQ4: What resources do undergraduate SLHS students feel are available to help them manage stress?

The quantitative section addressed the first three research questions, and the qualitative section of the study addressed all four research questions. The results of the quantitative

and qualitative sections were analyzed, respectively, and then triangulated to provide comprehensive responses to the research questions.

Institutional Review Board Process

Before contacting the participants, the researcher submitted an application for expedited review by the university's institutional review board (IRB). The IRB approved the questionnaire and its administration procedures, which included participant recruitment using an SLHS departmental email distribution list. The IRB expressed concern about the researcher conducting focus groups with students whom she teaches and suggested either conducting the study at another university or asking someone else to conduct the focus groups. The researcher's advisor [the advisor] is not affiliated with the university and agreed to conduct the focus groups, which was approved by the IRB.

Quantitative Questionnaire

The quantitative questionnaire was administered via an emailed link to undergraduate SLHS students. The questionnaire contained previously validated instruments and original, context-specific questions to investigate SLHS students' experiences of stress.

Instrumentation. The content of the questionnaire included five constructs that emerged from the literature as salient factors to explore in the context of college students' stress as depicted in Table 2.1.

Table 2.1

Constructs Related to Stress in College Students

Construct	Definition	Indicator	Citations
Perceived stress	The physical and psychological effects of students' perceptions that they have a decreased ability to manage important events and expectations (Lazarus, 1966).	Perceived Stress Scale-10 (Cohen, Kamarck, & Mermelstein, 1983), will include all 10 questions; qualitative focus group questions	Cohen et al., 1983; Holliday et al. 2016; Jacob et al., 2013; Lee et al., 2013; Roberti, Harrington, & Storch, 2006
Stress management	Students' awareness of resources to help them manage stress, and what students do to manage their stress (Yorgason et al., 2008)	Student Life Stress Inventory (SLSI; Gadzella, & Baloglu, 2001) Questions 42-51 relate to stress reactions; qualitative focus group questions	Coiro, Bettis, & Compass, 2017; Gadzella, & Baloglu, 2001; Yorgason et al., 2008
Academic expectations	Students' perception of high academic demands in college courses (Beiter et al., 2015; Misra & McKean, 2000; Economos et al., 2008) coupled with high GPA requirements for graduate admissions to speech-language pathology programs (Halberstam & Redstone, 2005; Tekieli Koay et al., 2016).	SLSI (Gadzella & Baloglu, 2001) Questions 11-13, 21-23 relate to academic stressors & may add questions specific to graduate school; qualitative focus group questions	Beiter et al., 2015; Misra & McKean, 2000; Economos et al., 2008; Gadzella, & Baloglu, 2001; Halberstam & Redstone, 2005; Tekieli Koay et al., 2016

Construct	Definition	Indicator	Citations
Self-efficacy	Students' beliefs that they possess the knowledge and skills needed to complete tasks and solve problems (Darlow, et al., 2017; Kitsantas, Winsler, & Huie, 2008).	Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1991), questions 5, 6, 12, 14, 20, 21, 29, 31 relate to self-efficacy; qualitative focus group questions	Darlow et al., 2017; Fonteyne et al., 2017; Kitsantas et al., 2008; Pintrich et al., 1991; Pintrich, Smith, Garcia, & McKeachie, 1993
Financial burden	The monetary cost of attending college and graduate school is high, continues to rise, and loan repayment may not be commensurate with earnings upon graduation from undergraduate or graduate school (Cooke et al., 2004; Guo et al., 2011).	Qualitative focus group questions; original questionnaire questions	Cooke et al., 2004; Guo et al., 2011

The 45-item questionnaire included 35 questions from previously published instruments and 10 additional questions that the researcher developed to inquire about context-specific factors including SLHS students' experiences regarding graduate school, finances, and demographic information (Appendix A). The Perceived Stress Scale (PSS; Cohen et al., 1983) is a questionnaire that is widely used in the literature to measure stress in college students (Cole, 1999; Harris et al., 2016; Hope et al., 2013; Jacob et al., 2013; Leppink, Odlaug, Lust, Christenson, & Grant, 2016). Two groups of college students participated in the original study of the PSS (Cohen et al., 1983), which included 14 items.

The revised PSS-10 is more commonly used, and Roberti et al. (2006) and Lee (2012) conducted studies to examine the psychometric features of the PSS-10 with college students. Both studies found that the PSS-10 represents a reliable and valid instrument to assess college students' perceived stress, with a Cronbach's alpha >.70 (Roberti et al., 2006; Lee, 2012). All 10 questions on the PSS-10 ask respondents to consider their experience over the last month and responses are measured using a five-point Likert scale of frequency. For example, two questions from the PSS-10 are "In the last month, how often have you become upset because of something that happened unexpectedly?" and "In the last month, how often have you felt confident about your ability to handle your personal problems?" (Cohen et al., 1983, p. 394).

In addition to the PSS-10, the questionnaire included items from the Student-life Stress Inventory (SSI; Gadzella & Baloglu, 2001), a survey instrument that measures college students' stressors and reactions to stressors (Misra & Castillo, 2006; Misra & McKean, 2000; Misra et al., 2000). The SSI is reliable and valid for use with college students, and confirmatory factor analysis revealed significant correlation coefficients (p <.001) for all categories and the entire test battery (Gadzella & Baloglu, 2001). The SSI uses a five-point Likert scale of frequency, and questions 42 through 51 of the SSI relate to students' stress reactions and include questions such as "When under stressful situations, I was irritable towards others" (Gadzella & Baloglu, 2001, p. 93). Questions 11, 12, 13, 21, 22 and 23 of the SSI relate to academic stressors for college students, such as "I worry and get anxious about taking tests" and "I experienced pressure due to an overload, attempting too many things at one time" (Gadzella & Baloglu, 2001, p. 92).

The Motivated Strategies for Learning Questionnaire (MSLQ) was the third previously validated instrument utilized. The MSLQ uses a seven-point Likert scale to survey students' academic self-efficacy across eight questions (Pintrich et al., 1991). The questions about self-efficacy (i.e., 5, 6, 12, 15, 20, 21, 29, 31) are part of the expectancy construct within the instrument, which includes test items that assess students' beliefs that they are capable of accomplishing tasks, such as "I'm confident I can understand the most complex material presented in this course" and "I'm certain I can master the skills being taught in this class" (Pintrich et al., 1993, p.13). The psychometric properties of the MSLQ were established with a sample of 380 college students in the Midwest in 1990 and demonstrate moderate predictive validity of final grades and reasonable factor validity, with Cronbach's alphas ranging from .52 to .93 (Pintrich et al., 1991). Only the self-efficacy questions were selected from the MSLQ for the questionnaire to explore self-efficacy in the context of the research question about factors related to students' stress, and the internal reliability coefficient alpha for the self-efficacy scale was .93 (Pintrich et al., 1993).

Additionally, the researcher wrote 10 original questions. Three demographic questions, one each about students' class year, GPA, and intended field of study (i.e., speech-language pathology, audiology, or unsure), helped to describe the sample of respondents. Four questions about students' finances and three questions about graduate school used Vagias's (2006) Likert scales. Cognitive interviews with one junior and one senior undergraduate SLHS students (one using Desimone and LeFloch's (2004) guidance were conducted to probe for content validity.

First, the students reviewed hard copies of the questionnaire for clarity and content validity. The students' interpretations of the meaning of questions were consistent with one another, and with the researcher's interpretation of the questions, suggesting strong content validity (Lochmiller & Lester, 2017). Both students suggested similar changes to the questionnaire. Changes made included separating the use of drugs and alcohol as stress management strategies into two questions, eliminating questions specific to course readings because some courses do not require reading, and eliminating redundant questions. Two questions were reworded to clarify their intent, and a question about performance on assignments and tests was broken into two questions, one each about assignments and tests, as the students pointed out they would not know how to answer the question if they had different responses about assignments and tests.

Following the cognitive interview, the researcher piloted the electronic Qualtrics questionnaire with seven SLHS students, including one junior and six seniors. The students suggested clarifying the instructions of two questions, which were edited before administration of the questionnaire in the study. The final change to the questionnaire prior to administration was to modify the sequence of questions to place the 10 original questions, including demographics, at the end rather than the beginning in order to facilitate responses to the content questions (Dillman, Tortura, & Bowker, 1999).

Sample. The sample for this study included undergraduate SLHS students at a private, Jesuit, liberal arts university in the Mid-Atlantic. Participants were recruited via an email invitation using a departmental distribution list. The email invitation was sent to 172 undergraduates, including 27 freshmen, 47 sophomores, 40 juniors, and 58 seniors. Students do not typically declare a major until sophomore year, which may explain the

low number of first-year student invitees. Participation was voluntary (i.e., self-selected), as students were not required to participate in the questionnaire or the focus groups. Although use of a convenience sample did introduce a potential self-selection bias, random sampling would have resulted in a very small sample size that would further limit external validity. The questionnaire was developed in Qualtrics, and the researcher sent an initial email with the Qualtrics link to SLHS students, followed by two reminder emails, each one week apart.

Eighty-three students completed quantitative questionnaires, representing a 48% response rate. Table 2.2 shows the participants' class years, anticipated career path (i.e., SLP, audiology, or unsure), and GPA. The overrepresentation of students who plan to pursue SLP mirrors the number of students who prefer SLP to audiology in the program. Students' cumulative GPAs represent their grades in SLHS courses and core courses, which is relevant because of the robust core curriculum at the university.

Table 2.2

Questionnaire Participants' Characteristics

	Number	**Percentage**
Class Year (*n* = 84)		
Freshman	4	4.76
Sophomore	28	33.33
Junior	22	26.19
Senior	30	35.71
Cumulative GPA (*n* = 84)		
2.6-3.0	3	3.57
3.1-3.4	21	25.00
3.5-4.0	60	71.43
Intended Career Path (*n* = 83)		
Speech-language pathology	71	85.54
Audiology	5	6.02
Unsure	7	8.43

Results. The researcher initially viewed the questionnaire results in Qualtrics and then exported data to Excel and SPSS for analysis applying standard descriptive statistical methods. Analysis of data yielded the following results.

Perceived stress. Figure 2.2 depicts 87 SLHS students' responses to questions about their perceived stress from the PSS-10. Responses were provided on a five-point Likert scale, ranging from 0 (never) to 4 (very often). Each question began with the prompt, "In the last month, how often have you…" and students were instructed to select the most reasonable estimate based on their recollection of the last month. Analysis of the data suggest students feel capable of handling the challenges in their lives but feel stressed in the process. Examination of the frequency data reveals the majority (83.9%) of SLHS students feel stressed fairly often or very often. Only 39% of students felt things were going their way at least fairly often, and 34.5% of students felt able to control irritations in their lives at least fairly often, which means the majority of students feel unable to control irritations in life, and only 42.5% of students felt on top of things fairly often or very often (see Figure 2.2).

Figure 2.2. Perceived Stress Scale-10 Results

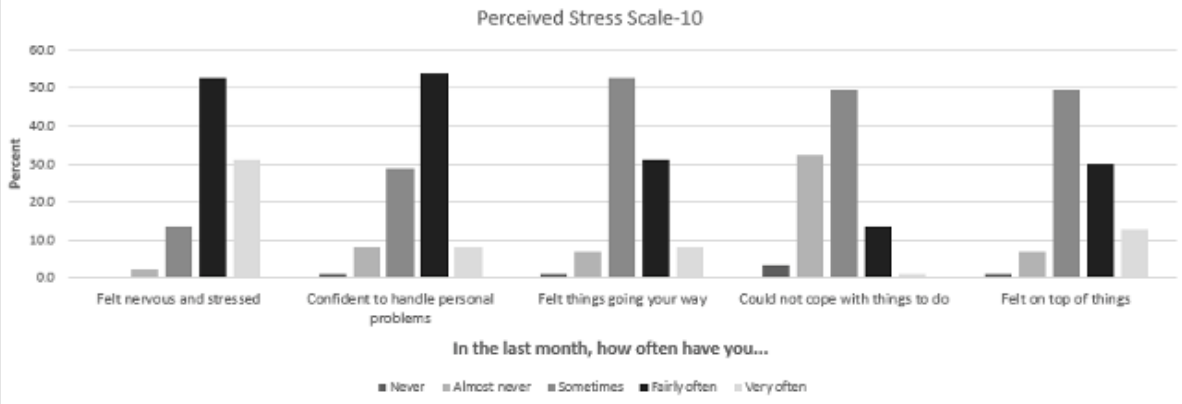


Figure 2.2. Perceived Stress Scale-10 results. Depiction of SLHS students' perceived stress.

Interestingly, 62% of students felt confident about their ability to handle personal problems, and only 14.9% of students felt unable to cope with all that they had to do. Although the students are stressed, many of them feel they are able to manage their demands. Students' responses to the PSS evidenced that they do experience stress, and the SSI results suggested several relevant factors related to stress in SLHS students.

Factors related to stress. Figure 2.3 depicts 86 students' responses to questions from the SSI about factors related to perceived pressure. Each question was scored on a Likert scale of 5, ranging from 0 (never) to 4 (most of the time) and began with "I feel pressure due to…" followed by the variable.

Figure 2.3. Sources of Students' Pressure

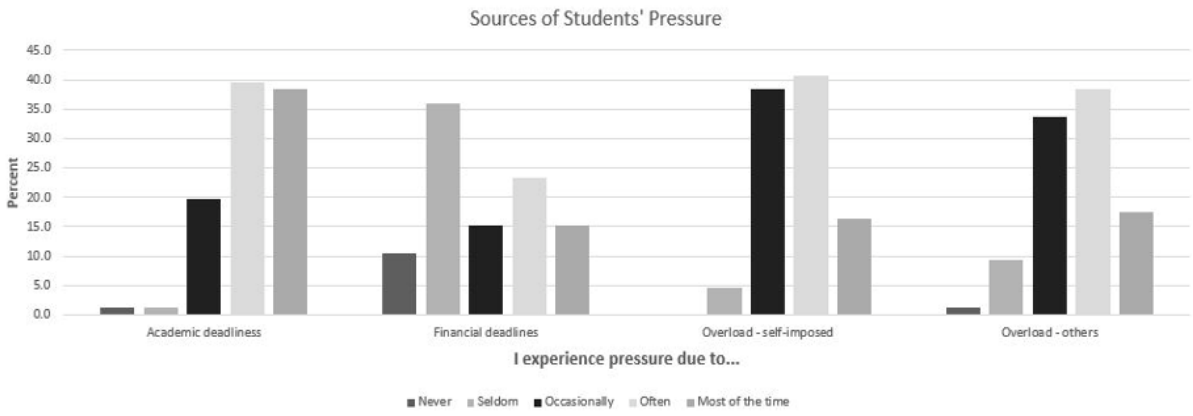


Figure 2.3. Sources of students' pressure. The figure shows the percent of students who felt pressure related to academic deadlines, financial deadlines, self-imposed overload, and overload imposed by others, respectively.

Academic deadlines were the most common factor related to SLHS students' stress, according to results from the SSI. Students commonly reported stress related to academic work across several questionnaire items and focus groups. Most of the students (77.9%) reported feeling pressure due to academic deadlines, and 69.41% of students worry about taking tests often or most of the time. The students' self-reported GPAs were generally

high, with 71% of students reporting GPA between 3.5-4.0 (see Table 2.2). Despite high GPAs, 91.57% of students agreed or strongly agreed that getting into graduate school is stressful. Interestingly, more than half (66.27%) of students were confident they will get into graduate school, but graduate admission remains stressful, and 56.63% of students reported that they think about getting into graduate school at least once daily.

In addition to academics and graduate school, findings suggested that financial factors are also stressful for students. Financial concerns about education cause stress for about half of the students, and about one-third of students (38.38%) experience pressure due to financial deadlines often or most of the time. Students' parents, scholarships, and loans, respectively, finance their undergraduate education. However, students anticipated being primarily responsible for financing their graduate educations, followed by contributions from their parents and loans, respectively.

Figure 2.4 depicts 84 students' responses to questions from the MSLQ that were scored on a seven-point Likert scale ranging from 1 (very untrue of me) to 7 (very true of me) and began with the phrase "I am confident I…" about an SLHS course. Findings indicate that academics, graduate school and financial concerns are stressful for students. Self-efficacy was an anticipated contributor to students' stress, but the data suggest that most SLHS students are confident that they will be able to succeed academically.

Figure 2.4. SLHS Students' Self-Efficacy

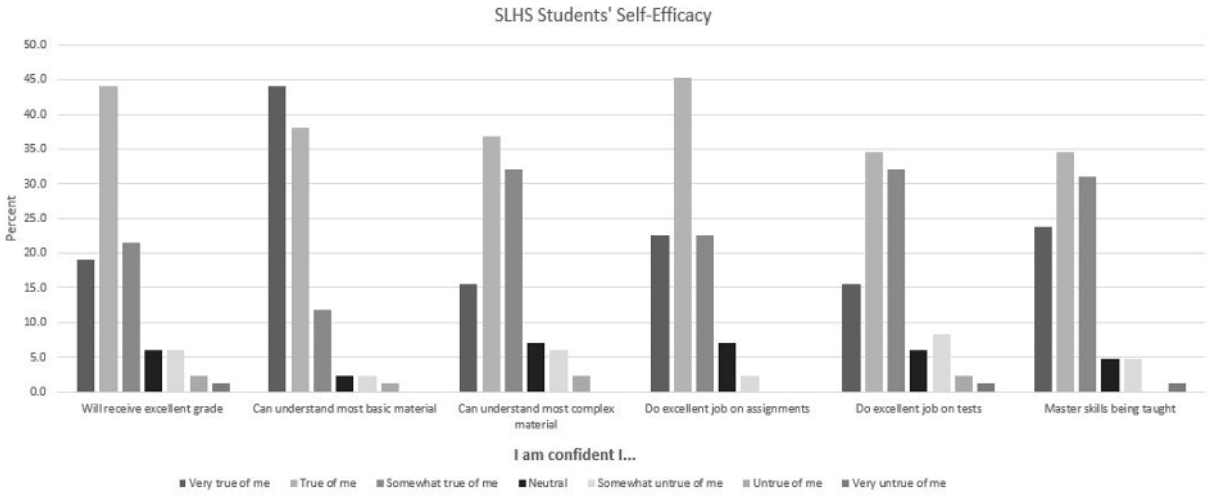


Figure 2.4. SLHS students' self-efficacy. Students report high levels of self-efficacy in SLHS courses.

Results suggest that students' stress does not come from a perceived inability to learn, but from the volume and nature of the material, and the pressure to perform at the highest level on all assignments, in all courses, as 76.5% of students feel they must find a perfect solution to problems often or most of the time. The results of the MSLQ aligned with students' responses to the PSS-10 suggesting they feel confident in their ability to manage personal problems. Undergraduate SLHS students do not seem to lack confidence, but they feel stress nonetheless.

How undergraduate SLHS students manage stress. The SSI included questions that were on scored on a five-point Likert scale ranging from 0 (never) to 4 (most of the time) and began with "Under stressful situations, I…" followed by different reactions. Results depicted in Table 2.3 reveal reactions to stress, including stress management.

Table 2.3

Students' Stress Reactions

	N	Minimum	Maximum	Mean	Std. Deviation
Think about how stressful the situations are	84	0	4	2.71	.95
Lose sleep	85	0	4	2.59	1.06
Am irritable towards others	85	0	4	2.34	1.08
Change my eating habits	85	0	4	2.21	1.08
Separate myself from others	85	0	4	2.08	1.03
Think about effectiveness of strategies	85	0	4	2.01	.89
Smoke excessively	84	0	3	.09	.43
Think about suicide	85	0	2	.09	.33

Table 2.3 depicts a variety of students' stress reactions. The highest value is that students think about how stressful their situations are, which suggests a high level of self-awareness among SLHS students. The students feel stressed, and they are aware of the impact of stress on their physical health (i.e., substance abuse, changes in eating habits, and lost sleep) and mental health (i.e., abuse of others, irritability, suicidal thoughts).

Conclusions. The quantitative data suggest that undergraduate SLHS students are stressed and that academics, graduate school, and finances are key factors related to their stress. Academic stress is due to the pressure to perform well, and not due to students' perceived inability to complete the work (i.e., self-efficacy). Students' self-efficacy scores suggest they feel they are capable of meeting high academic expectations, but that doing so is stressful. Students' GPAs confirm their ability to manage the work, as the majority (71.43%) reported cumulative GPAs between 3.5 and 4.0 with only 3% reporting GPAs below 3.0. Students need high GPAs for acceptance to graduate school,

which is a relevant factor related to SLHS students' stress because they cannot practice without a graduate degree.

More than half (56.63%) of the students reported that they think about graduate school at least daily, and 91.57% of students agree or strongly agree that graduate admission is stressful. Therefore, the majority of students experience frequent and regular stressful thoughts about graduate admission. Most students (66.27%) agree or strongly agree that they will get into graduate school, but graduate admission remains a source of stress. Similar to academic stress, most students feel that they will achieve the goal of graduate admission, suggesting strong self-efficacy, but the ways they meet the expectations for admission cause stress.

In addition to graduate admission, financial concerns are stressful for more than half (63.09%) of SLHS students. At first glance, results about finances appear to be somewhat varied, as the SSI asks about pressure related to financial deadlines, and only 38.38% of students reported experiencing financial deadline pressure often or most of the time. However, the semantics of the question are important to consider given that deadlines may not be as stressful as tuition bills and the impending expense of graduate education.

Regardless of the nature of the stressors (i.e., academic, admission, financial), undergraduate SLHS students demonstrate physical symptoms related to stress, such as changes in sleep and eating habits, and emotional changes, such as irritability and crying. Perhaps not surprisingly, given their extensive thought devoted to graduate admission, undergraduate SLHS students also think about the stressful nature of their experiences

and consider the effectiveness of their stress management strategies. The results suggest that SLHS students are both studious and reflective.

Overall, the quantitative results provide objective evidence that SLHS are stressed. The data tell a convincing story of capable students who are confident in their ability to succeed, but who feel stress as they work to meet high demands in preparation for graduate admission. While the quantitative results are informative, findings from the qualitative study provide additional context of the stressed SLHS students.

Qualitative Focus Groups

Concurrent with the electronic questionnaire, 23 SLHS students from the same sample participated in qualitative focus groups. The purpose of the focus groups was to learn more about students' experiences of stress, including how stress feels, what they find stressful, and how they manage stress. The students were forthcoming with information, and their responses both aligned with the quantitative data and revealed additional insights about their stress experiences.

Sample. Focus group participants included 23 undergraduate SLHS majors, comprised of six sophomores, 11 juniors, and six senior students. The participants were divided into five focus groups of four or five students according to students' availability.

Instrumentation. The focus group design was semi-structured using a general interview guide approach (Turner, 2010) intended to provide the facilitator with a general structure for the discussion while also encouraging follow-up questions and the progression of natural conversation. Facilitating natural conversation in the focus groups is a discovery-based approach that requires open-ended questions and the moderators' willingness to allow participants to share their experiences freely (Chenail, 2011). Prior

to the focus groups, the researcher and the advisor spoke about the importance of remaining neutral and encouraging students to participate in a comfortable way (i.e., using verbal and nonverbal encouragers), while maintaining control of the group by refocusing if tangents seemed inappropriate or too far from the intended discussion (Turner, 2010).

The focus group questions sought to both validate and expand upon the findings from the quantitative questionnaire. The researcher wrote the focus group questions, which were reviewed by a course instructor, advisor, and teaching assistant prior to two cognitive interviews. The guide included questions about students' experiences of stress, such as what they find stressful, how stress makes them feel, and what they do to ease their stress (Appendix B). Additionally, the guide contained contextual questions about students' familiarity with campus services that are available to support students with mental health concerns, and about stress related to the graduate school process.

Data Collection. Given the previously noted IRB concerns, the advisor conducted the five semi-structured focus groups over two days. The discussions took place in a conference room within the SLHS department. Each focus group lasted 45 minutes and began with a review of the letter of informed consent (Appendix C). The researcher then left the room, and the advisor engaged the students in discussion regarding their experience of stress. The sessions were recorded using a handheld digital recorder and the Recorder+ application on a password-protected iPad. The researcher listened to the recordings and used Datagain transcription service to provide written transcripts of each focus group. Data analysis was completed using ATLAS.ti for qualitative coding.

Results. Before the focus group meetings, the researcher developed a priori codes (Lochmiller & Lester, 2017) based on the literature about stress in college students. The a priori codes included students' experiences of stress and key factors related to their stress such as finances, academic pressure, and graduate school admission. Additionally, it was anticipated that the students would lack self-efficacy and would share their stress management strategies during the focus groups. Perceived stress, academics, graduate school, finance, and stress management were commonly discussed in all five of the focus groups and remained relevant codes. However, students did not raise the topic of self-efficacy in the focus groups. Students discussed the volume and rigor of their SLHS work, but they did not express feelings of inability to accomplish the work or meet academic demands.

In addition to a priori codes, descriptive codes (Lochmiller & Lester, 2017) also emerged after analyzing the focus group transcriptions. The emergent descriptive codes included competition, transition, and community, which were added to the three a priori codes (i.e., graduate admission, academic demands, and finances). Saturation was achieved (Lochmiller & Lester, 2017) during the final focus group, as students did not share any information that was not discussed in the first four groups. Saturation suggests that sufficient data exists to assess the relevance of a priori codes, develop descriptive codes, and begin to consider themes in the data (Lochmiller & Lester, 2017). Following are descriptions of qualitative data in response to the research questions.

Perceived stress. Students in every focus group reported feeling stress in college. Students' awareness of their stress manifests in different ways. Some students expressed feeling a "big weight on my shoulders," increased irritability toward roommates and

friends, and increased reliance on their mothers during times of heightened stress. One student said "whenever I'm calling my mom more than once a day, I know I'm stressed" and other students agreed.

Other students remarked that they feel physical symptoms such as shortness of breath, rapid heart rate, or excessive fatigue when they are stressed. One student said:

> I get really tired because of all the brain energy I'm using, like right now I'm really tired, and then I take a nap, and then I wake up more stressed because I didn't do the work that I should have been doing while I was sleeping.

Stress has a physical impact on students, and stress seems to be closely associated with academic demands. Several students reported feeling stress in their stomachs. One student said stress feels like "a pit in my stomach" while another student commented that her stress feels like "butterflies in your stomach, but not in a good way, in a very uneasy way." The reasons the students feel stress appeared to vary.

Factors related to stress. Graduate school was the most commonly referenced factor by students in the focus groups, and the graduate school stress differed for students by class year. Sophomores mentioned anticipatory graduate school stress related to observing stressed upperclassmen, finding summer internships, and earning high grades, as one said:

> I just feel like all of us are like, 'Oh, we need to get an A because we need to have a good GPA for grad school.' Kind of like you said, if grad school was not there, I don't know. It would be so different. I guess that's the biggest thing for me as just an ongoing stress.

Stress related to GPA and graduate school is constant and does not seem to wane. Learning about the graduate admission criteria and the application process in faculty-moderated meetings was stressful for sophomores, as one student said she had "such anxiety walking out of there" and another said, "I always walk out of there crying."

Juniors participating in the study had recently attended meetings held by faculty and graduate students, respectively, about the graduate application process, and they remarked on the consuming nature of the graduate admission process. However, they also seemed reassured by students who recently completed the graduate school process, stating:

> There was a panel with students we had a couple weeks ago and that honestly reduced my stress... These people were in the same boat, and they still got into grad school. So, I think when I think of it that way, coming from the students was helpful when they were just honest about it.

Graduate admission impacts students' choices regarding academics and extracurricular activities, evidenced by a student who said:

> So you look at someone who applied to grad school, and you're like okay, they have these grades, and they have this grade score, and they did this many activities on campus. Now I have to do that and maybe a few more things to make sure that I can get in, and then I have to – it just like keeps piling up and at some point, it's not realistic anymore, and it's not healthy to constantly be doing things just so that you look good on paper.

Since this study took place late in the spring, seniors were already accepted to graduate school, and their stress seemed to shift from concern about admission (as seen in

sophomores and juniors) to what life would be like as graduate students living independently.

Seniors commented on their stress related to the transition to graduate school. Anticipatory concerns about leaving the comfort of college, finding housing, and managing expenses were stressful for senior students. One senior noted "I know where I'm going [to graduate school] and stuff, but now it's like a different type of stress, finances, finding a job maybe, finding an apartment, roommates, stuff like that" and another said:

> I think for me, because I'm graduating, just like taking the next step, and actually being on my own and like – it's just like scary because I feel like for your whole life, like you just were in school, like had your parents to lean back on and now it's just like that's kind of being taken away from you, and like college is just like throwing you into like the real world when you're done with it.

One student took comfort in technology as an asset that could help her manage life after graduation:

> I mean with technology, like it's so easy, like my parents are just a FaceTime away and like same with my brother. So I mean it is comforting in that sense, that like we have so much to like keep in touch.

Graduate admission seemed to align closely with academic stress for students across the focus groups, and all groups commented on the intensity and rigor of the SLHS curriculum, especially as compared to other majors at the university, such as:

> I think that we can all agree that yes, we are probably at least more stressed than most other majors … speech [SLHS] is like its own little world, so different than anything else, and nobody understands it except the people in the major.

Students commented about how SLHS students have to go to graduate school to practice, while students in other fields do not need graduate degrees to get jobs. The challenging nature of the curriculum is more stressful because students know they have to earn high grades for graduate admission, and they reported feeling overloaded.

Overload was echoed in the focus groups when students commented on their involvement in service opportunities, clubs, and leadership to improve their resumes and profiles for graduate admission. While they enjoy their activities, they also mentioned feeling pressure to join as many clubs as possible, leaving little time for anything beyond class and activities. One student remarked:

> You have to show involvement, you have to be in NSSLHA [National Student Speech-Language-Hearing Association], do volunteering, and there are so many things you have to incorporate to do well, to get noticed, and to stand out in the grad pool.

Several SLHS students expressed mental overload, suggesting cognitive load, and one student said: "Sometimes my head just feels so full, it's like there is so much going on in my head, it feels heavy, and I can't think straight, can't think clear because there is so much going on." Another student said she has difficulty attending to conversations with her friends because she can only think about the demands she has to meet.

In addition to academics and graduate admission, sophomore, junior, and senior students also mentioned stress associated with paying for both undergraduate and graduate education in the focus groups. One student said:

> I'm a sophomore, so I'm not like focusing on the logistics of grad school yet, but I'm definitely stressed at that because I'm already like paying for this school. So I'm like that's another two years of school that I'm paying for, so it's just like I'm already like oh my god, like how am I going to do that?

Senior students also remarked about the expenses associated with housing, car payments, taxes, and establishing retirement accounts upon graduation.

Stress management resources. Students in all five focus groups reported awareness of campus resources such as the Counseling Center, Campus Ministry, and the Student Support and Wellness Promotion Center, but their impressions of help-seeking differed. When asked about seeking help for stress, one student said:

> I use the Counseling Center. I love it. Absolutely love it. So they've been great with like – now I'm just like discerning what I want to do and just other stuff, like I think they're great, and like even just professors and like just reaching out to them, like they've been really helpful with like just – just life things and just looking ahead and stuff. So those two resources have been great for me personally.

On the other hand, some students expressed reluctance to seek support from services available on campus.

> *Student*: I feel like the furthest I'd ever go is just when I'm talking to my friends about it. We're talking about how stressed we are.

Advisor: It's interesting the words you used, 'The furthest I'd ever go,' so it sounds like it's a negative if you would go beyond that.

Student: I don't know if it's negative, I just personally would never see myself doing that, not that it's a bad thing at all. I think it's great to have those services for people but I just personally wouldn't. I think I can manage my stress enough that I don't ever feel too overwhelmed by it.

Students said they know how to access the services on campus, although some groups discussed that the services should be more visible to the student body, suggesting improved marketing and advertising might enhance students' awareness of support services. Some students also discussed the availability of SLHS faculty members to meet individually with students as a resource, while others mentioned they would appreciate the opportunity to have more social gatherings with the faculty (i.e., unrelated to class and academics) to increase students' comfort with SLHS faculty before seeking individual meetings, suggesting the desire for enhanced community within SLHS.

How SLHS students manage stress. SLHS students manage their stress in several ways. Several students remarked that the best way to manage academic stress is by making lists and getting work done, reinforcing the strong association between academic demands and students' stress. When asked about other ways to manage stress, students reported strategies like working out at the gym, watching Netflix, taking naps, eating junk food, calling their mothers, running, playing instruments, making lists, and attending SLHS faculty's office hours.

Students responses about relying on their friends for stress management varied. One student said "Our major is very close-knit, which is a positive and a negative.

There's that competition, and you try not to look at it that way, but it's there." Another student said:

> We are all competing for the same spots, and that takes away from the meaningful friendships. I mean, yes, you have friendships in our program, but it just adds stress to the friendship because you know that that's your competition.

While some students feel a sense of competitiveness among SLHS peers, other students said talking with friends who are fellow SLHS students is helpful because of the mutual understanding of SLHS stress, which is unique from other majors because of the course load and need for graduate studies.

Several groups of students desired an increased sense of community within SLHS, both among peers and with faculty, that would help with students' stress management. For example, one student said “Getting that personal connection with professors, people you respect, really is reassuring and would make me feel better” and another student noted:

> I think it would be cool if like the speech path department did like a breakfast or a dinner, just something to get everyone in the major together and like form that sense of community within the major. Because I feel like that would like kind of encourage people and like – like maybe form little study groups or something like that, like have that student-teacher relationship like grow or something, just, yeah, to form that sense of community like within our department.”

Additionally, a third student commented about the bond among SLHS majors in their chosen profession of service:

> Yeah, because I mean there – it is competitive and there are a lot of different personalities, but like I've met really nice – like we're all like here to help people and to do something good in the world. So like we all have at least like a good intention, and sometimes you can get carried away with like the stress, but, yeah, I think forming those like community bonds early on can make people feel welcome.

Conclusions. The students' qualitative responses confirmed three a priori codes that were established prior to the focus groups: academic pressure, graduate admission, and financial concerns. Self-efficacy was an a priori code that did not emerge in the focus groups, as students did not report a perceived inability to meet the demands. The unanticipated descriptive codes that emerged from the focus groups were transition, competition, and community. Figure 2.5 depicts the qualitative results.

Figure 2.5. Sources of Students' Stress

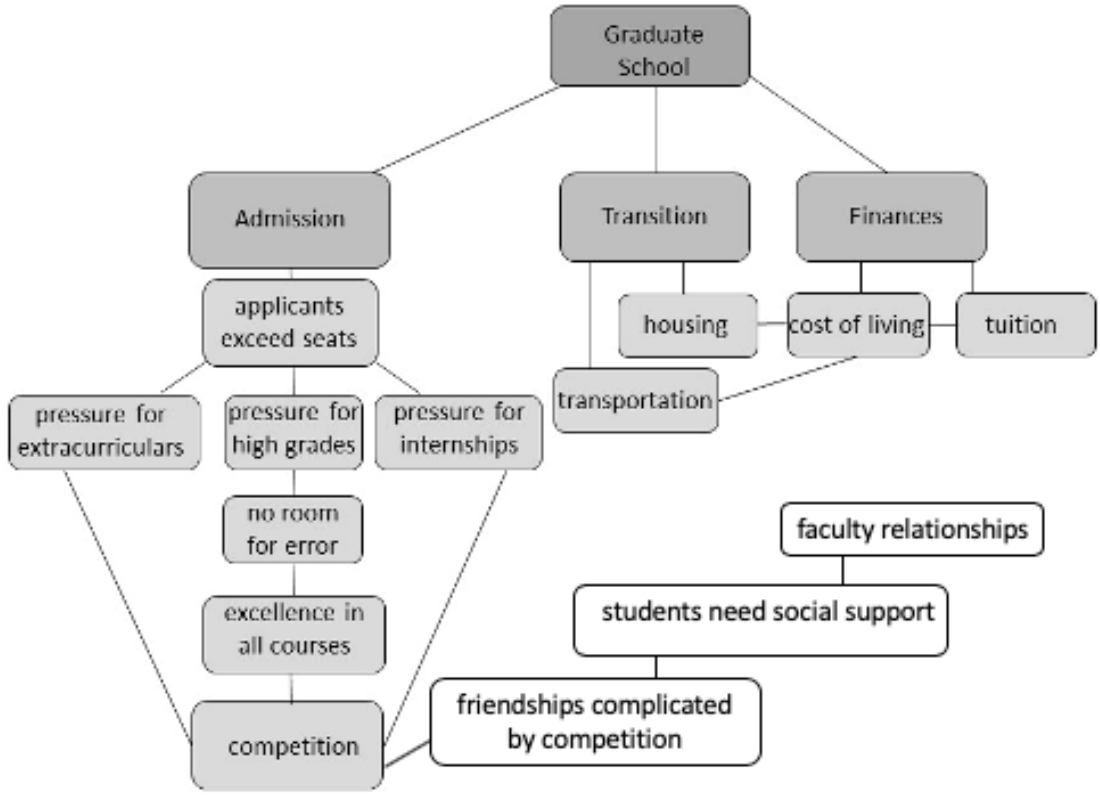


Figure 2.5. Sources of students' stress. Graduate school is the primary stressor, with associated stress related to admission, transition, and finances.

Senior students spoke about their stress related to transitioning from college to graduate school, with particular emphasis on independent living. Seniors are concerned about finding apartments, roommates, buying cars, paying taxes, and setting up retirement accounts. Surprisingly, none of the seniors commented about stress related to managing academic and clinical demands in graduate school. Rather, adjusting to life outside of the residential college world seems to be more stressful for the seniors.

Senior, junior, and sophomore students expressed feeling stress around the competition associated with admission to graduate school. Students compete against their peers for a small number of seats. The major is fairly small, and students take

SLHS classes with the same peers throughout their college careers. Some students reported feeling conflicted because the small classes allow for strong friendships and close bonds in the intense academic environment. However, competition may strain friendships. Students reported that they compare their grades and activities to their friends' because everyone is trying to stand out in the graduate admission pool. Communicating with friends becomes challenging because of the sensitivity of graduate applications and acceptances, and yet students expressed the need for support and community to help them manage the stress of the process.

Each group of students mentioned the desire for increased community within SLHS. Students seek deeper relationships with each other and with faculty outside of the context of class. Seniors remarked about the positive impact of the SLHS senior night, during which faculty and students shared appetizers and reminisced about the last four years. The environment was relaxed, comfortable, and not academic. Underclassmen expressed the desire for similar opportunities to connect with faculty and also with SLHS students in different class years. Because of the small number of majors and close advising within the department, students' need for increased community was unanticipated. However, each group expressed the desire for community.

Discussion and Synthesis of Quantitative and Qualitative Findings

One of the values of mixed methods research lies in the triangulation of data, such as the questionnaire and focus groups, to answer research questions (Lochmiller & Lester, 2017). The convergent parallel research design of this study included the simultaneous administration of the quantitative questionnaire and the qualitative focus groups, followed by the preceding separate analysis of the respective data, and this

synthesis of results. Students' request for community is an example of qualitative data that supports the quantitative data, but the specific need for community was not gleaned from the questionnaire.

The timing of the study is important to consider when analyzing the results. The questionnaire and focus groups took place late in the spring semester. Therefore, senior students were already accepted, deferred, or rejected from graduate school, and they likely had a plan for post-graduation. This might explain seniors' stress around adjusting to life after college (e.g., finding an apartment, buying a car, paying taxes). Junior students were quite stressed about the graduate admission process because they were approaching the summer when they take the Graduate Record Exam, finalize their list of schools to which they plan to apply, and draft their essays. Sophomores were on the cusp of being juniors, when graduate school becomes more of a focus. All students were finishing their semester and moving toward final exams, which is an inherently stressful time of the semester. It is unclear how the timing of the study impacted students' responses, but it is worth considering to understand the context of the results.

Quantitative findings from this study confirmed SLHS students are stressed, named relevant factors related to their stress (i.e., academic demands, graduate admission, financial concerns), and identified how students manage their stress (e.g., exercise, work to finish assignments, call home). The most salient findings from the qualitative portion of the study aligned with the quantitative results and expanded upon the questionnaire responses to provide context and depth to SLHS students' stress. The students consistently mentioned academic demands, graduate admission, and financial

concerns in the focus groups. They also elaborated and discussed transition to life outside of college, competition, and the need for community as areas of stress.

Academic demands and admission to graduate school seem closely linked for students. Quantitative results demonstrate academic demands and the pressure to meet the expectations of others, and students' own expectations, are stressful. The majority of students reported the need to find perfect solutions to problems often or most of the time. The stress around academic success was echoed consistently in the focus groups as well, as students in each group mentioned the need for high grades to be accepted into graduate school. Additionally, students often compared SLHS to other majors whose students do not need a graduate degree to practice. Some SLHS students suggested their peers in other majors are not under the same stress because graduate admission is not part of their undergraduate experience. The SLHS students seemed consumed by graduate school, with the exception of two sophomore students who reported they do not think about it much. They are in the minority, as the triangulated data include an overwhelming majority of students in the focus groups and over 90% of questionnaire respondents who reported stress associated with graduate admission.

Students in the focus groups also connected graduate school with financial concerns. Questionnaire results suggested students' concern about finances, but the questions were not written to provide a clear alignment between graduate school and financial stress. The topic of finances came up in several ways during the focus groups. The current cost of undergraduate tuition and the impending expense of graduate tuition was an anticipated topic that the students discussed. Additionally, senior students expressed stress around expenses such as rent, car payments, taxes, and retirement

accounts upon graduation. Several groups mentioned stress related to independent living, which quantitative results did not demonstrate, but the qualitative results provide valuable information to enhance understanding of students' financial stress.

One area of clear alignment between the quantitative and qualitative results is that students appear to have strong self-efficacy. They expressed confidence in their ability to succeed in classes and gain acceptance to graduate school in the questionnaire, and the sentiment in the focus groups was similar. The students are confident they can do the work and get into school, but the stress through the process is grueling.

The ways that students manage their high stress levels were briefly touched upon in the questionnaire (e.g., separating oneself from others) and expanded upon in the focus groups to include discussion about resources on campus for support. All groups knew of the resources, such as the Counseling Center and Campus Ministry, and students' responses about the likelihood of using the resources varied. They expressed reliance on their friends for support during stressful times, and also that friendships in SLHS can be difficult because students are competing with one another for graduate admission.

Competition with peers and friends emerged from the focus groups as a prominent source of stress for SLHS students. Because of the discrepancy between the number of applicants to graduate school and the available seats, competition is inherent in the process of graduate admission. However, the conflict around competing with the peers who shared the same small classes for four years and who often become close friends is stressful for students. It is natural to turn to friends for support, but SLHS friendships are complicated by competition, and several students reported not speaking with friends

about graduate school at all, which is challenging because over half of students reported thinking about graduate school at least daily.

After learning about the stressful nature of competing with close peers and friends, students' desire for increased community and support in SLHS makes sense. Students in the focus groups wanted connections with faculty and SLHS students in other class years in a non-academic context. Academics are stressful for students, and they expressed the preference to bond with one another and faculty outside of a classroom or graduate school meeting environment. Students seem to want improved social support from people who understand their experience first-hand to help manage stress.

Chapter 3: Review of the Intervention Literature

The impact of stress on learning (Klein & Boals, 2001), the pressure associated with graduate admission (Halberstam & Redstone, 2005), and the negative effects of stress on clinical work (LeBlanc, 2009) and students' mental health (Liu et al., 2018) suggest the relevance of studying stress in undergraduate students who major in speech-language-hearing sciences (SLHS). Additionally, a recent study found a strong association between undergraduate students' stress and the likelihood of suicide attempts, heightening the stakes and relevance of students' mental health and improved stress management (Liu et al., 2018). Data from the needs assessment demonstrate that undergraduate SLHS students at the university experience stress due to competition for graduate admission, which includes academic, financial, and social factors. A key finding of the needs assessment was students' need for stronger relationships with faculty members to help manage stress. This chapter presents a review of the literature about college advising, including its history, models, theory, and evaluation. Additionally, literature about mentoring, providing emotional support to college students, social support and stress, and professional development for faculty in higher education is presented.

Support for Undergraduate Students

Undergraduate students face a variety of challenges in college, such as managing academic demands and new social networks while living away from home. Universities provide support services to help students to navigate new systems and achieve success in college. Services may include academic advising, mentoring, and the provision of emotional support through psychological or counseling services.

Advising

Academic advising originated in the 1870s with the advent of elective coursework (Kuhn, 2008). Prior to the 1870s, university courses were mandatory and taken in sequence, leaving no choice for students. As universities expanded, course offerings grew, and institutions offered different fields of study, research, and student activities. The need for academic advising in higher education emerged when students had choices to make about their studies and extracurricular activities. Johns Hopkins University established the first faculty advising program in 1877 (Hutson, 2013). For the next 100 years, from 1870 until 1970, academic advising consisted primarily of faculty advising students about course selection, and advising remained a largely unexamined element of university life (Kuhn, 2008). In the 1930s and 1940s, the *whole student* experience came into light as student counseling emerged and called attention to students' academic, vocational, and personal experiences. Still, despite the emergence of a holistic approach to student advising, faculty members' performance and effectiveness as advisors were not assessed or regulated, and the advising process remained largely faculty-focused rather than student-focused (Kuhn, 2008).

The first national gathering of academic advisors occurred in 1977, and two years later, the National Academic Advising Association (NACADA) was formed. Shortly thereafter, NACADA developed a staff, a journal, local and national conferences, and the organization remains active today. In 1981, NACADA aligned with the Council for the Advancement of Standards in Higher Education to develop standards of practice, which were revised in 2005 to include assessment of advising and student learning outcomes (NACADA, 2006). The field of academic advising has since grown to include a body of

research literature, evidence-based practice, and graduate degree programs (Harborth, 2015). Advising has moved away from the exclusive duty and responsibility of faculty members, as some universities hire professional advisors to replace or supplement faculty advisors (He & Hutson, 2017). He and Hutson (2016) suggest that the shared model, wherein students may work with both professional and faculty advisors, is currently the most commonly used advising model. In addition to changing advising models, academic advisors' roles and responsibilities and associated competencies have also evolved since the inception of the field.

The roles of academic advisors. Academic advisors may be professional advisors or faculty members for whom advising is a required element of service to the university. According to NACADA (2006), whether conducted by a professionally trained or a faculty advisor, advising should be based on a curriculum, implemented with pedagogically sound methods, and student-focused. In 2006, NACADA released the following statement on academic advising:

> Academic advising is integral to fulfilling the teaching and learning mission of higher education. Through academic advising, students learn to become members of the higher education community, think critically about their roles and responsibilities as students, and prepare to be citizens of a democratic society and a global community. Academic advising engages students beyond their worldviews while acknowledging their characteristics, values, and motivations as they enter, move through, and exit the institution. Regardless of the diversity of our institutions, our students, our advisors, and our organizational structures, academic advising has three components: curriculum (what advising deals with),

> pedagogy (how advising does what it does), and student learning outcomes (the result of academic advising). (p. 1)

The statement suggests that ideal academic advising encompasses far more than transactional meetings to plan course registration. To meet NACADA's expectations, academic advisors must establish relationships with students and invest time to facilitate students' academic, career, and personal development (Harborth, 2015). White (2015) suggests academic advisors should communicate the mission and goals of the institution to students, help students to navigate university structures to develop and achieve their goals, and take advantage of opportunities to maximize their undergraduate experiences.

According to NACADA (2017), the core values for academic advisors include: caring, commitment, empowerment, inclusivity, integrity, professionalism, and respect. Advisors should develop empathetic relationships with students, demonstrate a commitment to students and the institution, support and motivate students to meet their goals, engage responsively with diverse students, maintain ethical behavior, and uphold professionalism and respect for all students in their work. Advisors' roles extend beyond course selection and registration and require deep and holistic engagement with students.

Allen and Smith (2008) studied advisors' roles and responsibilities by administering the Inventory of Academic Advising Functions-Faculty (Smith & Allen, 2006) to faculty who were involved in undergraduate teaching and advising. The instrument measures faculty members' perceptions of the importance of undergraduate students receiving advising in particular areas and the faculty's sense of responsibility for providing students with advising in the same areas. Participants included 737 faculty members at a public, research-intensive university. At such universities, undergraduate

advising may not be valued by faculty who view themselves primarily as researchers and scholars (Allen & Smith, 2008), but the study revealed otherwise.

Faculty rated all advising areas between four and six on a six-point Likert scale, suggesting faculty members highly value and accept responsibility for all of the selected advising functions (Allen & Smith, 2008). The five most important advising functions included: (1) providing accurate information; (2) connection between academics, career, and life goals; (3) major course selection that connects with academic, career, and life goals; (4) referral to campus services for academic support; and (5) understanding university policies and procedures. Interestingly, the top five areas for which faculty advisors took responsibility were: (1.5) connection between academics, career, and life goals; (1.5) major course selection that connects with academic, career, and life goals (there was a tie for the first two ranked positions); (3) referral to campus services for academic support; (4) providing accurate information; and (5) getting to know the student as an individual.

The results suggest that advisors value caring for the whole student. The provision of information is also a central advising role, and Allen and Smith (2008) propose the discrepancy between the ranks of importance and responsibility may be explained by advisors who feel ill-equipped as the final authority about high-stakes information such as meeting graduation requirements and navigating university systems with which the advisor is not familiar. While advisors provide information, they may have rated their responsibility level lower than the importance of advisees procuring information to avoid the suggestion of being the final authority. Nonetheless, the data provide relevant results regarding advisors' perceived roles.

The anticipated roles of advisors are also evident in job descriptions for professional advisors in higher education. Lee and Metcalfe (2017) examined job postings for academic advisors in the top 10 public universities in the United States (based on the 2015 Academic Ranking of World Institutions) and 15 reputable English-speaking Canadian universities. The 10 most frequently noted job duties for advisors were: academic advising, programming and delivery, collaboration and referral, recruitment and outreach, research/data assessment/reporting, career advising, financial aid and rewards, website and social media, admissions, and business development, suggesting a range of roles and responsibilities for advisors. It is important to note that the positions were intended for professional advisors, not faculty members or administrators who also advise.

Advisors' roles also vary within their respective institutions. For example, professional advisors' primary role is advising, whereas faculty advisors are responsible for teaching, research, and service requirements, and administrative advisors balance administrative work with advising (Harborth, 2015). The benefits of faculty advising include faculty members' intimate understanding of coursework and career development within a particular discipline (He & Hutson, 2017). However, faculty also have several other responsibilities, and advising may not be faculty members' priority because institutions typically value scholarship and publication over advising for promotion and tenure (Dillon & Fisher, 2000; He & Hutson, 2017).

Allen and Smith (2008) found that faculty and department chairs seem to value advising, but administrative support for advising was questionable at their research-intensive university. Although improving advising was touted as a university-wide

initiative by the administration, faculty felt that the lack of recognition of advising in promotion and tenure documents suggested administrators did not actually value advising in the same way as scholarship, teaching, and service. The lack of incentives and recognition, and potential lack of faculty time to devote to academic advising are formidable challenges for faculty advisors (Allen & Smith, 2008; He & Hutson, 2017).

In addition to questionable dedication and interest in advising by faculty and administration, faculty members may also lack specific training in advising, depending on the institution's practices (Dillon & Fisher, 2000; He & Hutson, 2017; Robbins, 2012). Higher education institutions also vary by type, including community college, private or public institutions, and two-year or four-year programs. The specific caseloads and demands on faculty advisors depend on the type of institution and its organizational structure. Across institutions, all faculty advisors should feel efficacious about their advising knowledge and skills.

Requisite knowledge and skills for advisors. Advisors' essential knowledge and skills, or competencies, include communication skills, interpersonal skills, and institutional knowledge (Menke, Stuck, & Ackerson, 2018). A study using the Delphi method determined the three competencies, following three rounds of surveys administered to a panel of professional academic advisors who were deemed experts by the researchers. The first round of surveys contained open-ended questions that asked participants' opinions about competencies, knowledge, personal and professional characteristics that advisors should possess. The researchers analyzed and consolidated the results, then sent the consolidated results back to the participants to rank the top 15 competencies, then those results were analyzed, and returned to the participants a third

time to edit and rank again. Communication skills, interpersonal skills, and institutional knowledge emerged as the essential competencies for academic advisors (Menke et al., 2018).

Lee and Metcalfe (2017) noted the top 10 skills needed for professional advisors in higher education positions: communication skills, knowledge in policies, informational technology proficiency, decision-making, time management and prioritizing, ability to work with diverse populations, advising skills, service-oriented, diplomacy/tact/discretion, and multitasking. The lists suggest that advisors need knowledge and skills related to courses and careers, institutional systems and services, research, technology, and business and that above all, they must be strong communicators. Advising knowledge and skills may vary depending on the model of advising used by each institution and advisor.

Models of advising. Models of advising provide structure for advisors regarding the purpose and goals of advising and the ways through which advisors interact with students to meet the goals. Following are descriptions of four predominant types of advising in the literature: prescriptive, developmental, praxis, and appreciative advising.

***Prescriptive Advising*.** Prescriptive advising is so-named because the advisor prescribes answers to the students' questions and problems (Crookston, 1972/1994). Like a doctor listens to a patient's symptoms and prescribes medication, advisors who use a prescriptive model take an authoritarian approach by providing answers to students' questions without considering students' opinions or ideas. The prescriptive advisor does not seek to develop a relationship with the student beyond the business of each meeting and interactions remain task-oriented (Crookston, 1972/1994). Prescriptive advisors see

students as incapable decision-makers, and when advisors make decisions for students, students carry out the decisions and do not bear responsibility for the consequences.

Crookston (1972/1994) compared prescriptive advising to developmental advising by describing prescriptive advising somewhat narrowly and negatively, expressing a preference for the developmental model. Brown and Rivas (1994) disagree with Crookston by suggesting that there is an appropriate time to use prescriptive advising and that advisors should not ascribe to the strict opposition of prescriptive or developmental models. Rather, advisors should select the model that will provide the most appropriate support, which may include prescriptive advising.

Prescriptive advising may be particularly useful for students whose cultural backgrounds include an expectation for perceived experts (i.e., advisors) to provide direct answers and resolution, rather than an indirect, collaborative response (Brown & Rivas, 1994). Some students may respond better to prescriptive advising because it is consistent with their experience of hierarchical role-relationships, such as students from traditional Chinese, Vietnamese, or American Indian backgrounds. First-generation college students may also benefit from a prescriptive approach because they may lack social and educational capital that would provide familiarity with the university system and procedures (Brown & Rivas, 1994).

Additionally, advisors should be aware that students enter college with varying experiences of advising and school bureaucracy. Brown and Rivas (1994) suggest that students may enter college with an inherent distrust of authorities associated with the university, such as an advisor. An advisor who provides vague and indirect answers and guidance would likely not increase the skeptical and distrusting student's confidence

(Brown & Rivas, 1994). First-year students may liken the role of advisor to the role of high school guidance counselors, who provide students with course descriptions and schedules (Smith, 2002). Smith found that first-year students may expect and prefer prescriptive advising because they want advisors to tell them which courses to take and to be knowledgeable about course content. A personal relationship beyond course selection was considered nice, but not expected or preferred by first-year students at the large, public university at which Smith's study took place.

While the advantages of prescriptive advising are evident for particular students, one of the primary arguments against a purely prescriptive approach is that advisors do not establish a holistic relationship with their advisees because of the transactional nature of their meetings (Jordan, 2000). Unlike course professors who change each semester, advisors are typically a constant presence in students' lives throughout their college careers, offering an opportunity to develop a long-term relationship that can enhance students' college experiences in ways beyond course selection. Developmental advising is an advising model that emphasizes the relationship between advisors and students.

Developmental advising. The concept behind developmental advising was proposed by O'Banion (1972/1994) in the context of advising in the community college setting. O'Banion suggested that advisors should assist students in the following five areas, in the order listed: explore life goals, explore vocational goals, acquire knowledge about college programs, acquire knowledge about course offerings, and schedule courses. The sequence is noteworthy because course selection comes after getting to know the students' goals, suggesting a priority shift from course registration to a more holistic

focus on the whole student. As its name suggests, the goal of developmental advising is the student's personal development.

Crookston (1972/1994) coined the developmental approach to advising and connected developmental advising with teaching, although the goals are developmental, and not learning-focused. Crookston argued that advising should be educative, not authoritarian, and framed around establishing a relationship of equality between the advisor and student. Both the advisor and student are responsible for initiating meetings, gathering information, and learning through the advising process. The developmental approach views students through a lens of potential (i.e., students are growing and capable of making good decisions with guidance), whereas prescriptive advisors see students with a focus on their limitations (i.e., advisors make decisions because students are not capable of looking out for their own best interest).

A decade after the description and naming of developmental advising, Winston and Sandor (1984) attempted to operationally define developmental advising in the first study that examined students' preferences about advising practices. Winston and Sandor developed the Academic Advising Inventory (AAI), a validated and reliable four-part inventory that is still used today (Harris, 2018). The first part of the AAI is a measure of students' perceptions of advising style on a continuum ranging from prescriptive to developmental advising. The second section includes items that frequently occur in advising sessions and students rate the frequency of occurrence in their advising experience on a scale of 0 to 5 times. The third section is a Likert-scale rating of students' satisfaction of academic advising, and the fourth section contains demographic information. Winston and Sandor used the Crookston's (1972/1994) distinction between

developmental and prescriptive advising to inform the test items. For example, developmental advising is growth-oriented, values shared responsibility and evaluation, and views the student as eager to learn and capable of self-direction, whereas prescriptive advising is problem-oriented, authoritarian, and considers the student lazy and requiring close supervision.

Participants were undergraduate students across all four class years at the university of Georgia, a large, public, research-oriented university, and more than half (54%) of students were assigned an advisor from the advising center, 19% were assigned faculty advisors. The remaining students were not assigned an advisor and saw anyone available in the advising center, participated in group advising or had other non-specified types of advising. The seminal study found that students preferred developmental to prescriptive advising for 19 of the 22 test items (Winston & Sandor, 1984). The only items for which students preferred a prescriptive approach related to advisors' knowledge and advice about programs and courses and about college policies, suggesting students rely on advisors to have a strong knowledge base about university course offerings, policies, and procedures. The results from the remaining 19 items strongly suggest students' preference for advisors' use of a developmental approach that empowers students to make decisions and engage in learning about coursework, major selection, and non-academic concerns such as career planning, social issues, and time management. From first-year students through seniors, students want advisors to know them beyond their studies and transcripts, and to provide both support and freedom. Winston and Sandor's study and the work of O'Banion (1972/1994) and Crookston (1972/1994) laid

the foundation for developmental advising that continues to be used and researched today.

More recently, McGill (2016) suggested that developmental advising seeks to develop the whole student through an educative approach with careful attention to students' academic, career, and personal pursuits. McGill proposed eight elements of developmental advising:

> (a) developmental advising is learner-centered; as such, developmental advisors: (b) teach students how to think differently; (c) respect student's thinking and prior knowledge; (d) recognize that every student is at a different level emotionally and cognitively, with differing amounts of motivation; (e) assess what students know and do not know; (f) use scaffolding to build on what students do know; (g) balance challenge with support; and (h) teach students the process of arriving at a decision. (p. 52)

McGill emphasizes the educative element of developmental advising by using verbs associated with teaching, such as *teach, assess*, and *scaffold* in his elements of advising, although developmental advising literature generally emphasizes development over teaching and learning. Students continue to prefer the holistic approach of developmental advising as evidenced by a study by Davis and Cooper (2001) that used the AAI at a regional four-year institution in the southeastern United States and Harris (2018) who used the AAI at a historically black university. Both studies found developmental advising is prevalent at the respective universities and students prefer developmental to prescriptive advising. Despite the prevalence and preference for developmental advising,

some advising scholars opposed the developmental model and proposed praxis advising as an alternative model (Hemwall & Trachte, 1999).

Praxis advising. Praxis advising, or advising as teaching, evolved from developmental advising when Hemwall and Trachte (1999) articulated some irreconcilable flaws and omissions of the developmental model. Primarily, Hemwall and Trachte found fault with the developmental underpinnings of the model, claiming that learning should replace development as the central tenet for an academic advising model. Most advisors are faculty members, not counselors, and an educative approach could be more appropriate than a developmental approach to advising. Learning in the context of praxis means that students engage in action, reflection, meaning-making, and self-transformation with the purpose of changing the world. To help students meet such high goals, advisors borrow and reframe selected elements from the prescriptive and developmental models, thus making praxis advising a hybrid model of sorts (Smith, 2002).

Like developmental and prescriptive advisors, praxis advisors assist students with course selection and registration. Praxis advisors provide advice about courses (i.e., prescriptive) and engage students in conversation about their preferences and opinions (i.e., developmental). Praxis advisors then depart from developmental and prescriptive peers by asking critical questions about students' learning, including course content, perceived relevance, learning outcomes, and takeaway messages (i.e., action in class, followed by reflection with the advisor) (Smith, 2002). Rather than viewing courses as a series of empty boxes that need checks, praxis advising offers the opportunity to facilitate

meaningful conversation about students' learning, which should be of primary importance in college (Hemwall & Trachte, 1999).

Another key difference between praxis and developmental advising is that developmental advisors and students are considered equal partners, while praxis advisors engage with students from the perspective of an experienced teacher (Hemwall & Trachte, 1999; Smith, 2002). Although the advisor-student relationship is not based on equality in the praxis model, praxis and prescriptive advising are not synonymous. Praxis advisors respect students' opinions and rely on their involvement in the advising process by listening to students' ideas and then ask probing questions to encourage deep thinking about decisions and goals, much like a strong teacher does in the classroom.

Appreciative advising. Probing questions are also at the root of the appreciative advising model. Appreciative advising is centered around positive, open-ended questions to discover students' strengths. Students' strengths are then used to facilitate the thoughtful discernment and achievement of goals that are authentic and unique to each student (Bloom, Hutson, & He, 2008). Appreciative advising includes six phases: disarm, discover, dream, design, deliver, and don't settle. The phases are based on the four phases of appreciative inquiry: discover, dream, design, and destiny (Cooperrider & Whitney, 2000). Appreciative inquiry is a strengths-based approach that involves the explicit identification of a person's or organization's strengths to promote individualized growth and success (Cooperrider & Whitney, 2000). Similarly, appreciative advising is designed to enable students to identify their strengths and develop and execute plans for success in and beyond college based on students' strengths and interests (Bloom et al., 2008). Needs assessment data revealed SLHS students' stress is primarily due to

graduate school admission, and the related academic, financial, and social pressures (i.e., plans for success in and beyond college), suggesting appreciative advising could be an appropriate model for SLHS advisors to consider.

Bloom et al. (2008) call their appreciative advising movement a revolution because they propose a complete overhaul of existing advising practices. Appreciative advising involves a commitment by advisors to self-examination and an openness to changing approaches that extend from office décor to reexamined verbal and nonverbal communication patterns. Appreciative advisors view advising as both a privilege and a responsibility, and they feel fulfilled by engaging deeply with students and enabling their success. The nature of the relationship between an appreciative advisor and student is critical to the success of appreciative advising, and SLHS students commented that they need stronger relationships with SLHS faculty to manage the stress associated with being an SLHS student. Bloom et al. (2008) propose that the relationship between advisors and students begin with first impressions.

First impressions are addressed in the first phase of appreciative advising, called *disarm*. Bloom et al. (2008) suggest that advisors should create warm and welcoming environments for students through deliberate attention to the details of greeting students in person and by name, meeting in comfortable spaces, using welcoming nonverbal communication (e.g., open posture, strong eye contact, no electronic distractions), and including appropriate self-disclosure in conversation. The goal is to create a meeting place in which students feel comfortable and sense advisors' genuine engagement and care for students. Disarming SLHS students is particularly important because advisors are faculty members, and academic pressure is a primary source of SLHS students' stress.

Advisors must recognize that although they may view their roles as instructor and advisor separately, students may have difficulty relaxing and fully engaging in the advising process because of the advisor's role as an instructor with power and control over students' grades.

After disarming, the second phase is *discover*. True to its origin in appreciative inquiry, the appreciative advisor asks open-ended questions to help students to discover their strengths, interests, and desires. Using strategies like strength-based story reconstruction, an advisor may ask a student to share a story about overcoming a challenge, and the advisor listens attentively and identifies the students' strengths exemplified through the story. For example, a SLHS student may share a story about managing a rigorous exam schedule while preparing for a championship athletic event and running an SLHS service project. The advisor could ask about how the student managed so many demands and what she enjoyed most about the busy week. Those strengths are unique to the student and are authentic because they are grounded in real experience. Once students recognize and discuss their strengths, advisors support them in the next phase of appreciative advising: *dream*.

Dreaming refers to developing a vision of what students might become in the future, and advisors can help to align students' dreams with their strengths and interests. Dreaming can be challenging, as students' dreams may be inhibited by past experiences, lack of confidence, and influence from other people (Bloom et al., 2008). SLHS students' dreams are influenced by the stress and pressure associated with graduate school admission. While the appreciative advisor does not dismiss students' initial dreams (e.g., tell a weak SLHS student that she will not get into graduate school and to

select another career), the advisor works to explore a range of options with the student. The explicit connection between the discover and dream phases, or purposeful alignment of students' strengths with their future plans, can help to increase students' confidence and enthusiasm for ambitious plans, and to transition from dreaming to the next phase: *design* (Bloom et al., 2008).

The appreciative advisor facilitates students' design of a plan to achieve the dreams that were articulated during the dream phase. For example, an SLHS student may decide she is interested in pursuing SLP and wants to attend a bilingual Spanish and English graduate program. During the design phase, the advisor talks with the student about graduate potential programs, admissions criteria, and what the student can do to improve her chances for admission (e.g., study abroad in a Spanish speaking country, volunteer in SLP department at a local hospital). The advisor does not take a prescriptive approach by telling the student what to do (Crookston, 1972/1994), but the advisor and student collaborate to design an action plan, which may include referrals to other offices on campus to provide additional support and information to the student (Bloom et al., 2008), such as the counseling center for distressed students.

As the student carries out the action plan, the *deliver* phase begins. During the deliver phase, the appreciative advisor's role is to motivate and encourage the student to follow through. Students may rely on the advisor for support and direction if the plan does not unfold as anticipated, and if students' interests and goals shift (Bloom et al., 2008). Advisors continually remind students that there are many ways to be successful, and several ways to achieve the same goal. Encouraging students to set and achieve high goals is the essence of the sixth and final phase: *don't settle*. Appreciative advisors

establish strong rapport with students to learn about their strengths, interests, and dreams to help students hold themselves to high standards and reach their fullest potential (Bloom et al., 2008). These ideals align well with SLHS students' stated desire for strong relationships with faculty members.

The various models of advising differ in goals and approach, but the concept of providing support to undergraduate students to help them reach graduation is similar across models. Typically, advisors are the university employees with whom students have the most consistent contact throughout college (Vianden & Barlow, 2015), making advisors appropriate people with whom SLHS students could develop meaningful relationships. Despite the prevalence of advising programs at undergraduate institutions, data to support the efficacy of advising practices is mixed.

Evidence of advising efficacy. Empirical support for the efficacy of academic advising is varied in the literature. For example, intrusive advising (i.e., advisors contact advisees and mandate attendance at meetings) increased students' academic achievement and retention in some studies (Abelman & Molina, 2001; Kirk-Kuwaye & Nishida, 2001) and did not have a significant effect on students' academic achievement or retention in a more recent study (Schwebel, Walburn, Klyce, & Jerrolds, 2012). Another study of 611 undergraduate students found that academic advising (the advising model was not specified) positively impacted students' academic performance, student responsibility, study skills, self-efficacy, and perceived support (Young-Jones, Burt, Dixon, & Hawthorne, 2013). Similarly, Shelton (2003) found that nursing students' perceived level of support positively impacted their retention and academic success, suggesting a supportive relationship with an advisor might improve outcomes for students.

The evidence to support the efficacy of advising programs is not commensurate with the growth of the field and regularity of advising practices. Aiken-Wisniewski, Smith, and Troxel (2010) advocate for research on academic advising by faculty researchers to contribute to the advising literature from the perspective of professionals who are entrenched in the work of advising. He and Hutson (2016) conducted a recent review of advising literature and found that most studies rely on student satisfaction data, rather than using multiple forms of assessment that extend beyond students' opinions. The variety of advising approaches suggest a range of assessment procedures would be appropriate, such as micro-analytic assessment questions, rubrics, and surveys to assess students' participation, understanding, and learning (Erlich & Russ-Eft, 2013). Additionally, measures to assess the impact of advising on the institution are relevant, as advising influences students and the institution as a whole.

McClellan (2011) proposes that advising assessment should include measures of institutional success, such as students' GPAs, retention and graduation rates, and faculty workload. McClellan also advocates for assessment of Lynch's (2000) advising-specific measures of advisor to student ratios, advisor availability, and advisor knowledge. The multidimensionality of academic advising is reiterated in advising literature, and it makes sense that assessment should not be limited to single measures of student satisfaction.

Powers, Carlstrom, and Hughey (2014) conducted a national study of 230 advising administrators from public, private, nonprofit, for profit, doctoral-degree granting, non-doctoral degree granting, four-year, and two-year institutions to examine the assessment practice of student learning objectives in advising. Powers et al. developed The Survey on Assessment of Academic Advising, an original instrument with

demographic questions about participants and their institutions, and 21 test items about advising student learning outcomes (divided into three groups: cognitive, behavioral, and affective outcomes) and procedures to assess the learning outcomes, including the number of measures used for assessment.

Results indicated that 77.8% of the respondents reported using student learning outcomes in their advising practices, with no significant difference between the type of institution and identification of learning outcomes (Powers et al., 2014). Institutions that used a shared model (i.e., professional and faculty advisors) were more likely to identify and measure student learning outcomes. Of the institutions that use advising student learning outcomes, less than 65% measure the outcomes, and less than 15% use multiple assessment measures, suggesting a nationwide need to enhance the assessment of advising practices.

Mentoring

In addition to advising, mentoring is another way to provide support to undergraduate students. While advising is typically formal and required by the university, mentoring is often informal and not explicitly required. The etiology of the word mentor comes from Greek mythology, but a working definition of the word is not as easy to identify. Jacobi (1991), Crisp and Cruz (2009), and Gershenfeld (2014) completed reviews of mentoring literature that collectively span literature from the mid-1970s through 2012, and none of the three defines mentoring because the process and concept changes depending on the context in which the mentoring occurs. Jacobi identified 15 functions of mentors (e.g., support, advice, information, protection, role model), from which three categories emerged to describe the relationship between a

mentor and student: emotional support, career support, and role modeling. Nora and Crisp (2007) expanded on Jacobi's categories to include academic support as a fourth category for mentoring. Interestingly, Bloom et al. (2008) use different terminology, but the six phases of appreciative advising (i.e., disarm, discover, dream, design, deliver, don't settle) echo Jacobi's and Nora and Crisp's categories. Despite the lack of a consensus definition, mentoring programs are prolific in higher education institutions and may be implemented using peer-to-peer (Hall & Jaugietis, 2011; Goff, 2011; Rayle & Chung, 2007) or faculty-student models (Putsche, Storrs, Lewis, & Haylett, 2008). This review focuses on faculty as mentors.

McKinsey (2016) suggests that mentoring expands upon good teaching and supervisory practices to include elements of support and close interaction that can be powerful enough to change the course of a student's life. McKinsey conducted a qualitative study of 12 faculty members who earned high praise from students as mentors on course evaluations. Students' evaluations of the faculty members and faculty self-reports were analyzed and compared to existing literature about mentoring in undergraduate universities. McKinsey identified a three-step model for undergraduate mentoring*: mentoring in, mentoring through*, and *mentoring onward*. Each step corresponds with students' matriculation through college, beginning with orienting first-year students to university life, progressing to helping students to develop and refine higher-levels skills, confidence, and autonomy, and then looking toward life after graduation. Mentors' roles change as students progress through school, but McKinsey reports that three essential elements of successful mentoring relationships persist: connection, collaboration, and mutual commitment.

Connections with mentors may begin in a classroom setting, and interactions outside of class can enhance connections and relationships between students and faculty. Similar to a faculty-advisor, mentors who are faculty members are uniquely positioned to relate to students from academic and non-academic standpoints (Nora & Crisp, 2007). Students perceive faculty as mentors when they connect outside of class, and the faculty member spends time getting to know the student well enough to engage in meaningful and personal conversations about the students' strengths and potential (McKinsey, 2016). Students felt empowered by mentors whose belief and interest inspired deeper connection and self-confidence. Engaging with students to understand their goals, motivations, and aspirations align with the developmental advising model and suggest the value of a holistic approach to supporting students.

Collaboration between faculty mentors and students may also originate in the classroom and could grow to include mutual work on research or other applied work. Collaboration strengthens the relationship between a mentor and student through shared interests and work. Finally, mentoring depends on the mutual commitment between a student and faculty member. Commitment means dedication to mutual availability and a shared interest in the students' goals, progress, aspirations, and overall well-being (McKinsey, 2016). Setting educational and career goals, provision of emotional and psychological support, and knowledge about students' academic areas of study were the three statistically significant latent variables of students' mentoring experiences by Nora and Crisp (2007). Similarly, availability, being knowledgeable, and supporting students' autonomy are predictors of students' perception of the quality of advisors (Sheldon, Garton, & Orr, 2015). While advising and mentoring are different, areas of overlap

between them are evident, and an understanding of both approaches will contribute to a comprehensive view of undergraduate student support. Specifically, appreciative advising seems to blur the line between advising and mentoring with focus similar to McKinsey's *mentoring in, mentoring through,* and *mentoring onward* approaches. Still, some students may require support beyond that which advisors and mentors are qualified to provide, and counselors and psychologists fulfill an important and relevant role in student support services.

Emotional Support for Students

The rate of referrals to university counseling centers is growing five times faster than university enrollment (EAB Global, 2018), which is not surprising given the increasing trends of mental health care in children and adolescents (Olfson, Druss, & Marcus, 2015) and the demands placed on college students (Beiter et al., 2015). Albright and Schwartz (n.d.) suggest that college campuses are not prepared to handle the increasing number of students who need mental health help. The first step to help students manage mental health situations is to identify those students who need help.

The efficacy of population-based screening for psychological distress in college students is variable (Hunt & Eisenberg, 2010), due in part to a lack of screening tools for higher education professionals to use with students. Downs, Boucher, Campbell, and Polyakov (2017) recognized the need for a reliable and valid screening tool and looked to health care literature to find the WHO-5, a five-question screening tool that was developed as a tool to assess patients' quality of life with diabetes, and is also used as a depression screening tool screening (Topp, Ostergaard, Sondergaard, & Bech, 2015). Downs et al. conducted a study with 903 undergraduate students (approximately half

from public and private institutions, respectively, 62% female, and 80% white) who took the WHO-5 and validated measures of depression, anxiety, overall psychological distress, and well-being, respectively. The WHO-5 could be a useful tool for faculty advisors who act as gatekeepers because it is free of charge, short, and easy to administer, score, and interpret for non-clinical professionals. Gatekeepers are people who interact with students regularly and may detect behavior that suggests students need help (Albright & Schwartz, n.d.; Eisenberg, Hunt, & Speer, 2012), such as academic advisors and mentors.

In the university setting, faculty members who are trained in their respective disciplines (and not mental health) may serve as gatekeepers because of frequent interaction with students. The founders of Kognito, an avatar-based online training program with modules targeting mental health and different populations in education and healthcare, recognized the potential gap between gatekeepers' training and their actual roles (Albright & Schwartz, n.d.). One Kognito module is called *At-Risk on Campus for Faculty and Staff* and it engages university faculty and staff users in simulated scenarios intended to improve participants' preparedness, likelihood, and self-efficacy to address (i.e., identify and refer) at-risk students. Scenarios include settings like realistic classrooms and faculty offices with students who have declining grades, attendance, or behavior. Users are provided with various options about how to address the students, and students respond to the user's choices convincingly with different reactions. Users have the opportunity to go back and try different responses, and Kognito provides popup guidance about additional choices to consider, providing a no-stakes environment in which to practice addressing at-risk students.

Evidence to support simulation in mental health education is emerging, as discussed in a review by Williams, Reddy, Marshall, Beovich, and McKarney (2017). Williams et al. reviewed 48 studies that included various forms of simulation (e.g., standardized patients, virtual patients, and mannequins) and found a clear need for mental health education due to the increasing incidence of mental illness and rapidly changing technology that permits high-fidelity simulation experiences. Kognito is relatively new simulation program, and Rein et al. (2018) conducted the first evaluative study of Kognito in higher education specifically. Nearly 2000 participants, including about 400 faculty members, completed the At-Risk on Campus module with the Gatekeeper Behavior Scale (GBS; Albright, Davidson, Goldman, Shockley, & Mitchell-Timmons, 2016) as a pretest and posttest measure. The GBS includes three subscales: Preparedness, Likelihood, and Self-Efficacy, and participants self-report their scores. Rein et al. found statistically significant differences in participants' scores on all three subtests after completion of the Kognito At-Risk module.

In the absence of extensive literature about Kognito in higher education, the consideration of a study conducted in the elementary school context is appropriate. Long, Albright, McMillan, Shockley, and Price (2018) completed a randomized control trial with 19,000 elementary school teachers using the Kognito *At-Risk for Elementary School Educators* module. Teachers were randomly assigned to a wait-list control group (i.e., they completed Kognito training after the study) and the intervention group that completed Kognito as part of the study. All teachers completed a modified version of the GBS following the simulation and again three months later. Teachers in the intervention group had statistically significant differences in their scores as compared to the control

group, suggesting teachers' perceptions of improved preparedness, likelihood, and self-efficacy to address distressed students after the Kognito module. Faculty at the elementary and higher education levels found Kognito to be effective at improving their ability to identify and refer students in distress.

Once identified, college students who seek mental health services may be divided into three groups: high-need, short-term need, and low-risk (EAB Global, 2018). While mental health services should be provided by a credentialed professional, the stepped care model suggests there might be a place for faculty members to provide support to some students as well. Sobell and Sobell (2000) propose three principles of stepped care: individualized treatment (includes attention to symptoms, available resources, and students' beliefs), treatment should be evidence-based, and treatment should be the least restrictive to be effective.

The first principle underscores the need to work within the constraints of the university setting regarding resources and facilities, while also aligning treatment with students' presenting symptoms and beliefs. Secondly, the stepped care model is not haphazard or trial-and-error, and treatment should be evidence-based. Finally, students should receive the least intensive, most effective care. That is, if participating in a stress management workshop led by trained faculty members meets the student's needs, that student should not be enrolled in intensive, individual therapy. Stepped care aims to avoid using unnecessarily taxing and intensive resources (thus maintaining availability for high-need students) while providing appropriate care to low-risk and short-term need students (Sobell & Sobell, 2000). Cornish (2017) applied the stepped care model to higher education and suggested that care is dynamic and students may move up and down

steps of the model depending on their presenting symptoms and needs. A range of services, such as self-help, online resources, peer support, and counseling and therapy services on- and off-campus may encompass the steps at a particular university (Cornish, 2017). Faculty members may be the gatekeepers who identify and refer students for mental health services, and faculty may also participate in students' care in the context of a stepped model. Finally, faculty advisors and mentors have the opportunity to provide social support that may protect students from developing mental health problems and stress (Watkins & Hill, 2018).

Social Support for Students

Cobb (1976) first described social support as "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligation" (p. 300). About ten years later, Cohen and Wills (1985) wrote the seminal work relating social support and stress by suggesting that social support has a buffering effect on stress. For example, a student with weak or absent social support may view an event as more stressful than a student with stronger social support; social support buffers the stress. Social support for college students may be provided by friends, family, and romantic partners (Lee & Goldstein, 2016) and university personnel such as faculty members (Allgower, Wardle, & Steptoe, 2001), including advisors and mentors.

Watkins and Hill (2018) conducted a study with 368 undergraduate students to examine the indirect effect of social support on anxiety and depression symptoms, respectively, using stress as a mediating variable. Students voluntarily completed three valid instruments with good internal consistency: the Depression Anxiety Stress Scales (Henry & Crawford, 2005), Duke-UNC Functional Social Support Questionnaire

(Broadhead, Gehlbach, de Gruy, & Kaplan, 1988), and the Perceived Stress Scale (Cohen & Williamson, 1988), as well as demographic questions. Most of the students were White (76.9%) and female (64.7%).

The study found that social support had a significant indirect effect on symptoms of anxiety and depression, respectively. The effect on anxiety symptoms was not significant without stress as the mediating variable, but the effect on depression was significant even without stress, suggesting there are other potential mediating variables related to social support and symptoms of depression. However, regardless of additional variables, Watkins and Hill's (2018) findings that increased social support is correlated with decreased stress for college students are consistent with other studies that suggest social support buffers college students' stress (Crockett, Iturbide, Torres Stone, McGinley, Raffaelli, & Carlo, 2007; Dennis, Phinney, & Chuateco, 2005; Hefner & Eisenberg, 2009).

Chao (2012) also recognized the value of social support as a buffer for the negative effects of stress on college students, and conducted a study to examine the relationship between stress, low social support, and well-being. A sample of 459 undergraduate students voluntarily completed surveys with demographic information and questions from the Perceived Stress Scale (Cohen et al., 1983), Social Support Inventory (Brown, Alpert, Lent, Hunt, & Brady, 1988), COPE (Carver, Scheier, & Weintraub, 1989), and the Mental Health Inventory (Veit & Ware, 1983), all of which have established psychometric adequacy. Chao found a significant two-way relationship between students' perceived stress and social support and a significant three-way interaction between perceived stress, social support, and dysfunctional coping. Social

support does buffer the effects of stress, but dysfunctional coping can reduce the buffer and negatively impact students' well-being. Low social support worsens the negative effects of stress on students' well-being.

Theoretical Support

Advising and mentoring literature lack cohesion both within and across fields regarding preferred theoretical support. However, appreciative advising is based on appreciative inquiry, which was developed by Cooperrider (1990) as a strengths-based approach to organizational improvement. Rather than focusing on an organization's weaknesses, Cooperrider proposed that stakeholders reflect on successes and strengths, and build on them to design future improvement. Emphasis on goodness, wellness, and success is a positive psychology approach that dates back to Maslow (1954). Appreciate advising adopts positive psychology-based appreciative inquiry by guiding students to discover their strengths, rather than focusing on their weaknesses.

Appreciative advisors also help students to make decisions about courses, activities, and career plans using choice theory (Glasser, 1986). Advisors provide guidance to students about choices, but students are the ultimate decision-makers. The relationship between the advisor and student is emphasized by Glasser, and the appreciative advisor is attentive to each student's unique needs to foster an authentic and productive relationship (Bloom et al., 2008). SLHS students' decisions and stress are largely around graduate school admission, which relates to Covington's (1992) self-worth theory. Self-worth theory states that students' perceived self-worth depends on performance and achievement. SLHS students know that they must perform and achieve

to earn graduate school admission, and appreciative advisors recognize the connection between achievement and self-worth.

The nature of the relationship between the advisor and student is central to appreciative advising. Social constructivist theory suggests the relevance of the connection between advisors and students, and the impact of students' prior experiences and social interactions on their learning (Bloom et al., 2008). Vygotsky (1978) acknowledged the influence of students' social interactions (e.g., with peers and advisors) through the zone of proximal development, suggesting that students learn more when they are influenced by capable peers. Additionally, Vygotsky proposed that a scaffolded approach to support (i.e., more support initially, then support is reduced as students become more competent) facilitates learning. Appreciative advising takes advantage of both the zone of proximal development when advisors influence students' experiences, and scaffolding, as advisors modify their support as students progress through the six phases of advising (Bloom et al., 2008). Appreciative advising is deeply rooted in theory, and moving from theory to practice requires training for advisors that is well designed and effective for adult learners.

Professional Development for Faculty Advisors

Although the need for advisor training is evident in the literature (Aiken-Wisniewski et al., 2010; Dillon & Fisher, 2000; Robbins, 2012), empirical, peer-reviewed studies about professional development for advisors are limited. To begin planning a professional development program, one must create an environment that is conducive to adult learning.

Knowles (1968) proposed the seminal theory on adult learning, or andragogy. Knowles proposed the following characteristics distinguish adult learners from child learners: self-direction, extensive life experience, readiness to learn, preference for relevant and application-based knowledge, internal (versus external) motivation to learn, and the desire to understand the relevance of learned content.

Motivation is also addressed by Keller (1987) who grounded his attention, relevance, confidence, and satisfaction (ARCS) model of learning in expectancy-value theory. As its name implies, expectancy-value theory suggests that motivation is related to value (i.e., satisfaction of personal needs) and expectancy for success. The ARCS model uses the four conceptual categories to frame suggested strategies and a systematic design process based on appealing to learners' motivation (Keller, 1987). First, learning depends on attention. Gaining and sustaining learners' attention are of paramount importance during a professional development event. Relevance refers to the learners' perceived value of learning new material. Confidence describes the learner's expectancy of success that also includes a possible fear of failure. Finally, satisfaction refers to a learner's sense of accomplishment upon learning. All four constructs contribute to learners' motivation (Keller, 1987).

Subject-specific content is needed to put the ARCS model into action for advisors. King (2000) and Vowell and Farren (2003) suggests that professional development programs for academic advisors should include three content areas: conceptual, informational, and relational content. Conceptual content focuses on what advisors need to understand to advise effectively. Advisors should understand the model and purpose of advising advocated by the university, such as the role of advising in

students' development (developmental model) or the role of advising in students' learning (praxis model). Informational content is what advisors need to know, including the organizational structure of the university, academic and course programs, and logistics of registration and course selection. Lastly, relational content refers to the advisors' knowledge and skills such as listening, communication, and interviewing to engage students in meaningful advising sessions.

Currently, there is no literature to support the use of the ARCS model in professional development related to advising in higher education specifically. However, researchers in other areas of higher education used the ARCS model in their research. For example, Surry and Land (2000) used ARCS in a study on motivating higher education faculty to use technology and Chyung (2001) applied ARCS in a study designed to examine approaches to reduce attrition rates in online higher education, suggesting ARCS is relevant to studies in higher education. Most PD is conducted in face-to-face environments, but educating practitioners through simulation is becoming more prevalent (Bradley & Kendall, 2014; Long et al., 2018).

Proposed Intervention

Needs assessment data revealed SLHS students are stressed, and they seek stronger relationships with faculty to help manage their stress. Qualitative data suggested that SLHS students desire a stronger sense of SLHS community through closer connections with faculty and fellow students. SLHS faculty members serve as advisors for SLHS students and the advising schedule is looped, which means advisors keep the same students from their sophomore through senior years (first-year students have core advisors), then advisors loop back and begin with a new sophomore class after seniors

graduate, and so forth. The looped schedule provides an opportunity for advisors to provide social support to students through long-lasting and meaningful relationships, and social support may serve as a buffer for students' stress (Chao, 2012; Cohen & Wills, 1985; Watkins & Hill, 2018).

After reviewing advising, mentoring, psychology, and professional development literature, the structure of an intervention that involves advising to improve social support emerged. Of the four types of advising reviewed (i.e., prescriptive, developmental, praxis, and appreciative), appreciative and praxis advising align most strongly with both SLHS students' stated needs for support to manage their stress, and the mission and the Jesuit pedagogical practices employed at the university. Additionally, appreciative advising includes valuable elements of mentoring, such as role-modeling and providing emotional support, and the model of mentoring in, through, and onward, respectively. Infusion of praxis questions within an appreciative model will foster action and reflection and explicit connection to the university's mission in a strengths-based context. Lastly, by nature of having regular and meaningful contact with students, faculty advisors are well-positioned to serve as gatekeepers by identifying struggling students who may benefit from mental health services. Therefore, incorporating content to train advisors to identify distressed students is relevant as well. Grounded in appreciative inquiry and based on positive psychology, choice theory, social constructivism, and Vygotsky's (1978) zone of proximal development and scaffolding, appreciative advising has a strong theoretical basis with compelling practical relevance for SLHS advisors. Therefore, professional development will be designed to increase SLHS faculty advisors'

appreciative and praxis knowledge and skills to improve social support for students, with the ultimate goal of helping students to manage their stress.

Chapter 4: Intervention Procedure and Program Evaluation Methodology

Needs assessment data revealed that undergraduate students studying SLHS at the small, Jesuit, liberal arts university in the Mid-Atlantic experience stress due to competition for graduate admission, which includes academic, financial, and social factors. Students need high GPAs to be competitive applicants, paying for undergraduate and graduate school is stressful, and competition for graduate admission impacts SLHS students' friendships. Students see their friends as competitors, and the social support that friendships typically provide (Lee & Goldstein, 2016) becomes complicated. Students expressed dissatisfaction with the social support from SLHS classmates, and a strong interest in developing deeper relationships with faculty members, suggesting students' need for increased and higher quality social support. Social support helps to improve students' experiences with stress by serving as a buffer. Buffering both reduces the stress experienced by students (Cohen & Wills, 1985) and also helps students to manage stress (Watkins & Hill, 2018) and this intervention sought to provide SLHS faculty advisors with knowledge and skills to improve social support for students. Advisors are appropriate university personnel to provide social support because of the looped model at the university wherein SLHS students have the same advisors from sophomore through senior year, with several required meetings each year.

Appreciative (Bloom et al., 2008) and praxis advising (Hemwall & Trachte, 1999) emphasize meaningful relationships between advisors and students. Both appreciative and praxis advisors ask probing questions that encourage students to reflect on past experiences to learn about themselves and to develop individual plans for growth and success in college and beyond. Advisors who take the time to use appreciative and praxis

strategies with students approach advising meetings holistically, rather than with a prescriptive focus on course selection (Crookston, 1972/1994). As advisors and students talk and develop relationships, advisors are well positioned to identify changes in students' mental health, and advisors should be aware of the increasing incidence of college students with mental health needs (Liu et al., 2018) and feel prepared to identify and refer at-risk students to appropriate campus resources.

The purpose of this intervention, named appreciative-praxis advising (AP advising), was to provide SLHS faculty advisors with knowledge and skills to improve social support for students, with the ultimate goal of improving students' experiences with stress. Specifically, AP advising included: (a) an online training module (Kognito) about identifying and referring at-risk students, (b) a face-to-face professional development (PD) launch meeting to introduce appreciative and praxis advising, (c) biweekly emails with multimedia content to support advisors' implementation of AP advising, and (d) a wrap-up meeting to discuss the implementation and results of the intervention. The intervention addressed the following research questions:

RQ1: To what extent did SLHS advisors participate in the Kognito module, launch, and debrief meetings?

RQ2: What were SLHS advisors' experiences with the AP advising program?

RQ3: To what extent did AP advising change SLHS advisors' knowledge of appreciative and praxis advising strategies?

RQ4: To what extent did AP advising change SLHS advisors' preparedness to identify and refer at-risk students?

RQ5: To what extent did SLHS advisors' use of AP advising strategies change as a result of the AP advising program?

RQ6: To what extent did SLHS advisors' perceptions of their roles change after AP advising?

AP Advising Intervention Components

The purpose of the AP advising program was for SLHS advisors to participate in professional development about social support to help students manage stress. The intervention allowed advisors to examine current advising practices, and then learn about and implement appreciative and praxis advising strategies and strategies to improve social support for students. Table 4.1 provides details regarding the activities, timeline, and duration of the components of AP advising. The study was approved by the institution's IRB and all participants consented to the study (Appendix K).

Table 4.1

AP Advising Components

Activity	Timeline	Duration	Description	Example
Kognito At-Risk for Faculty & Staff module	August 2019	45 minutes	Avatar-based online module with realistic college student scenarios intended to improve participants' preparedness, likelihood, and self-efficacy to address at-risk students	Avatar student's grades, attendance, and work are declining; participants practice sharing concern with the student and making a referral with opportunities to try different approaches
Launch meeting	September 2019	75 minutes	Face-to-face meeting with all participants (n = 6) using appreciative framework to introduce AP advising, share needs assessment results, and provide university's context for improved advising	Describe your best advising session. What made it better than others? How did you and the student communicate? What did you discuss? What roles did you fill? How can you make other sessions more like that one?
Supplemental resources	Biweekly, September, 2019 to November, 2019	Varied depending on content (e.g., article, video, podcast)	Content related to AP advising	Informative handouts with *what, why, try* format for discover, dream, design
Wrap-up meeting	April, 2020	60 minutes	Appreciative framework to facilitate participants' reflection on AP advising experience; provide preliminary process and outcome data	Describe your best advising session. What made it better than others? How did you and the student communicate? What did you discuss? What roles did you fill? How can you make other sessions more like that one?

Kognito At-Risk Module. All participants completed the Kognito At-Risk on Campus for Faculty & Staff online module between September and December 2019. One participant completed the module before the AP advising program. Participants accessed Kognito through the university's counseling center website and created a log-in and password to begin the module. The module takes approximately 45 minutes to complete and includes several avatar-based simulations of college students and faculty members interacting in realistic situations related to students' mental health, suicide prevention, and substance use. The simulations are interactive scenarios led by a virtual coach who guides users to increase connectedness, raise concerns, and help students to find support (Rein et al., 2018). The virtual coach provides real-time feedback during the simulation and users may take advantage of the no-stakes environment by going back to try different responses. Rein et al. (2018) completed a pretest posttest study with over 2,000 participants who took the Gatekeeper Behavior Scale before and after completing the Kognito At-Risk modules. Of the 2,000 participants, about 400 faculty members completed the At-Risk On Campus for Faculty & Staff module. Differences between pretest and posttest results were significant for all three subtests (i.e., Preparedness, Likelihood, and Self-Efficacy), suggesting a positive effect of the At-Risk module.

AP Advising Launch. The AP advising launch meeting took place in September 2019 in the SLHS department at the university. The meeting was structured using the appreciative advising cycle (Bloom et al., 2008) to introduce AP advising to the participants. The six phases of the appreciative advising cycle include: (a) Disarm, (b) Discover, (c) Dream, (d) Design, (e) Deliver, and (f) Don't settle (Bloom et al., 2008). Table 4.2 depicts how the appreciative advising cycle was used to frame the meeting,

based on Bloom et al.'s (2014) appreciative advising training workbook. Participants worked in pairs to reflect on positive advising experiences (i.e., implementing a strengths-based approach), reflecting on the positive experiences to identify what about the meetings made them feel successful, and moving on to determine how to make concrete, systematic changes to incorporate AP advising into future meetings.

Table 4.2

Appreciative Framework for Launch Meeting

Appreciative Stage	**AP Advising Meeting**
Disarm	Create inviting atmosphere with verbal (e.g., appropriate small talk) and nonverbal (e.g., eye contact, calling participants by name) welcoming behaviors; snacks provided
Discover	Honor participants' stories and build rapport by asking participants to work in pairs and share details about their best advising meetings
Dream	Expand on Discover by asking participants to share how they envision their ideal advising meetings. "What themes did you notice as you described your best session?" "What would you like to happen in your advising session?" "All constraints aside, what would your ideal advising session look like?" Remind participants that partners should be supportive by self-monitoring reactions that might seem judgmental (e.g., furrowed brow, eye rolling) and to help connect Discover and Dream by pointing out consistencies and inconsistencies across the two stages
Design	Create a plan for improving advising meetings. "What AP advising strategies will you use to improve your advising meetings?"
Deliver	Accountability for carrying out the Design. "What are some concrete changes you will make in your next meetings to move closer to your ideal advising?" "What will you do if a student demonstrates mental health needs?"
Don't settle	This stage will be introduced in the meeting and implemented using follow-up materials to prompt advisors to recall their Dream and Design stages and to continue to work to improve student meetings using AP advising

As the launch meeting progressed, the researcher provided background information about each stage of appreciative advising, and then participants had the opportunity to practice using their own advising experience. Praxis questions were introduced during the Discover and Dream phases. For example, "how do you see yourself fulfilling Loyola's

mission of making you a person for others?" Additionally, the facilitator shared needs assessment results and content about the university's current advising initiative (i.e., moving from a prescriptive to developmental model) to provide context and rationale for improved advising at the departmental and university levels. Consistent with praxis advising (Hemwall & Trachte, 1999) and the Jesuit model of action and reflection (Mountin & Nowacek, 2012), the session concluded with a brief opportunity for participants to reflect on the PD meeting experience.

Supplemental Resources. The sixth stage of appreciative advising, Don't Settle, suggests that consistent follow-up facilitates participants' continuous improvement (Bloom et al., 2014). Unfortunately, the logistics of participants' teaching schedules and meeting demands prohibited regular meetings as part of this program. In the absence of regular meetings, supplemental materials were provided to participants on a biweekly basis via email to maintain contact, promote the implementation of AP advising, and to provide additional resources about AP advising topics. Content related AP advising was emailed to participants and also stored in one central place on the university's One Drive, a shared drive to which all participants have access. All participants were also provided with a hard copy laminated AP Advising resource for easy reference during advising meetings. The resource included a visual depiction of the appreciative advising cycle with tips for the first three phases: Disarm, Discover, and Dream (see Appendix D).

Wrap-Up Meeting. A wrap-up meeting took place after the program and the format of the meeting mirrored the launch, following the six steps of the appreciative advising cycle. Participants were prompted to discuss their most effective AP advising session during the Discover phase and to reflect on what they learned about themselves

and their roles as advisors during the program. The facilitator also shared preliminary results from the study, including data from the pretest and posttest surveys and predominant codes from the focus groups. Finally, implications for practice were discussed, including the growth and expansion of AP advising in and beyond SLHS, ongoing action and reflection cycles for SLHS faculty and advisors, and consideration of a collaborative stepped care model with offices of student support at the university.

Research Design

The study used a mixed method, convergent parallel design (Creswell & Plano Clark, 2018). Onwuegbuzie and Leech (2006) suggest that the purpose of the research and research questions should determine the study design. The purpose of this study was to provide SLHS faculty advisors with knowledge and skills to improve social support for students by addressing the six research questions. Mixed methods was selected to take advantage of the measurable and objective depiction of participants' realities of AP advising with quantitative surveys (Teddlie & Tashakkori, 2003) and to gain a contextually rich account of participants' lived experiences of AP advising with qualitative focus groups (Guba, 1981).

Mixed methods studies may be carried out using quantitative and qualitative methods simultaneously with a convergent parallel design or using sequential administration with explanatory or exploratory designs (Mertens, 2018). The convergent parallel design includes simultaneous and independent administration and analysis of surveys and focus groups, with the subsequent synthesis of the results (Creswell & Plano Clark, 2018). In this study, participants completed quantitative surveys and qualitative focus groups before and after the intervention, in September 2019 and December 2019,

respectively. The results of the survey did not inform the focus groups (and vice versa) because the survey tool and interview guide were developed, administered, and analyzed simultaneously before synthesizing the results.

The quantitative survey included two instruments used in the literature about advising and mental health support for college students, respectively: The Inventory of Academic Advising Functions – Faculty (Allen & Smith, 2008; Appendix E) and the Gatekeeper Behavior Scale (Albright et al., 2016; Appendix F). Original demographic questions were also added to learn about participants' number of years as faculty members, as faculty at the university, as advisors, as advisors at the university, and past participation in training related to advising and Kognito (Appendix G). A qualitative interview guide (Appendix H) includes questions that address both process and outcome evaluation constructs, with process questions aimed at the fidelity of participants' implementation of AP advising and outcome questions focused on changes in participants' knowledge, use, and perceptions of AP advising after the intervention.

The research design for AP advising was developed around a theory of treatment that informed a logic model (Figure 4.1) with the anticipated inputs, outputs, and outcomes of the intervention. Process and outcome evaluations assessed the fidelity of implementation and the proximal outcomes of the intervention as specified by the logic model. Pretests and posttests consisted of simultaneous and independent administration and analysis of surveys and focus groups with participants, followed by synthesis of the quantitative and qualitative results.

Theory of Treatment

The following theory of treatment provided the foundation for AP advising: that training SLHS advisors to identify and refer distressed students and to use appreciative and praxis techniques (i.e., treatment process, independent variables) would improve social support for students (i.e., mediating variable) and eventually increase students' ability to manage their stress (i.e., target outcome, dependent variable). Leviton and Lipsey (2007) propose a four-step model to define what happens during an intervention to cause change, beginning with a problem definition, which is students' desire for stronger relationships with faculty. SLHS faculty advisors are the target population because of established ongoing opportunities to meet with the same students due to the looped advising model used at the university (i.e., first-year students have core advisors, sophomores are assigned to major advisors who remain with students through graduation).

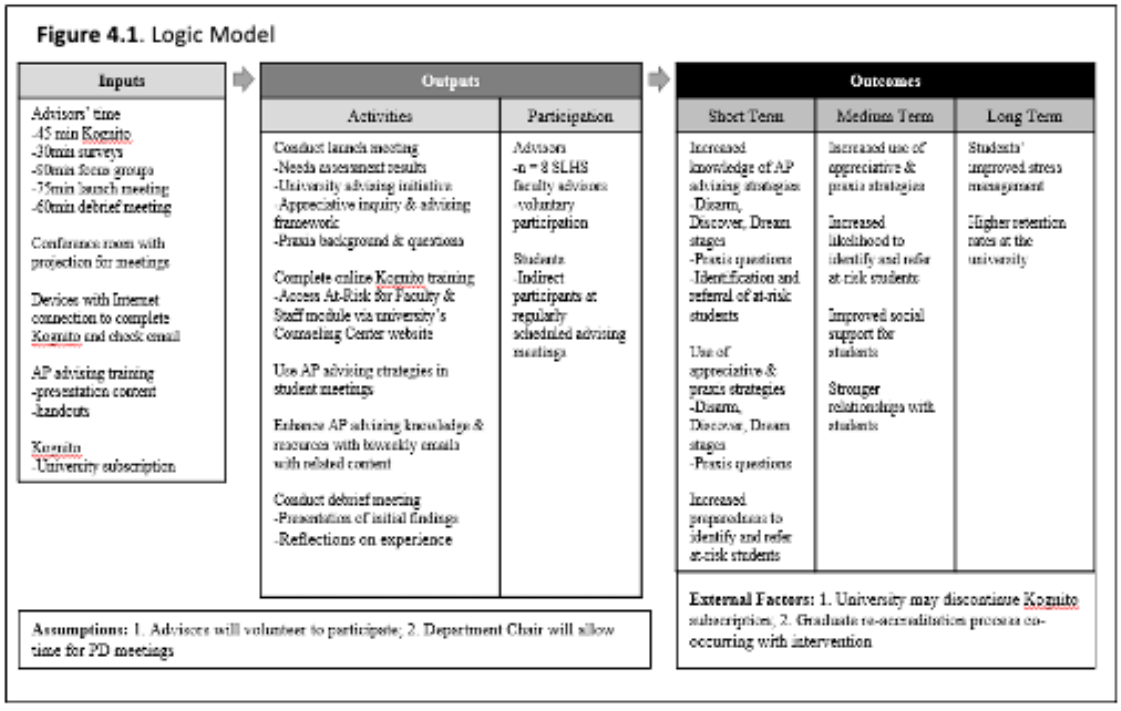
Following the problem definition, Leviton and Lipsey's (2007) second step is specifying critical inputs, which include the online Kognito module, launch meeting, and follow-up emails. The third step is describing the participants' transformation through the treatment. After advisors complete the first PD and implement appreciative advising strategies with their students, evidence suggests students will feel strengthened, valued, and have closer relationships with their advisors than before experiencing appreciative advising (Read, Hicks, & Christenbury, 2017). Albright and Schwartz (n.d.) and Rein, McNeil, Hayes, Hawkins, Ng, and Yura (2018) found that upon completion of the Kognito module, teachers felt more prepared and likely to use strategies to identify distressed students (all advisors in the intervention are also teaching faculty). Finally, the

fourth step is specifying the expected outcome, including students' improved ability to manage their stress (Chao, 2012) as a result of faculty social support through AP advising.

Logic Model

The details of implementing AP advising are depicted in the logic model (Figure 4.1), including program inputs, outputs (i.e., activities and participants) and short, medium, and long-term outcomes, respectively. Inputs include advisors' time completing the Kognito module (45 minutes) and attending the launch (75 minutes) and wrap-up (60 minutes) meetings. Advisors implemented AP advising during regularly scheduled advising meetings with students. Advisors typically have two meetings with students per semester that range in duration from 15 to 45 minutes in length. Facilities, technology, and program content are additional program inputs.

Figure 4.1. Logic Model



Outputs of the intervention include activities and participation. Six SLHS faculty advisors volunteered to participate in AP advising and their assigned student advisees (approximately 135 students) were indirect participants, as they attended advising meetings with the advisor-participants. Advisors completed the online Kognito module during the Fall 2019 semester. The Kognito module was accessed online through the university's counseling center website and completed on the advisors' laptops or tablets (all advisors have laptops or tablets provided by the university). Following the Kognito module, advisors attended the launch meeting during which the author presented content related to the needs assessment results, university-specific advising practices and initiatives, and background and strategies for appreciative and praxis advising. The author also emailed content related to AP advising to participants to provide additional resources for information and to promote ongoing engagement and implementation. The emailed content was also stored in a shared One Drive folder.

Following the module and launch meeting, advisors implemented AP advising in regularly scheduled advising meetings, approximately two meetings per semester that last 15 to 45 minutes each. Contextual constraints also influenced activities, inputs, and participation. For example, participation was voluntary, and all of the advisors teach undergraduate and graduate SLHS courses on two campuses, and their time is limited. Along the same lines, advisors have limited opportunities to meet together as a group for PD. Therefore, only two PD meetings were scheduled (i.e., launch and wrap-up), with additional email communication for reminders and related information. The logic model demonstrates both the conceptual and practical elements of the intervention program.

Process Evaluation

Process evaluation provides a means of examining the implementation of the intervention as depicted in the logic model. Saunders, Evans, and Joshi (2005) suggest that process evaluation contributes to the understanding of why a program is successful by assessing the fidelity of implementation, which connects a program and its outcomes. Process evaluation is situated in Stufflebeam's (2003) Context, Input, Process, and Product model that provides a framework for comprehensive program evaluation. Questions guide process evaluation, and Rossi, Lipsey, and Freeman (2004) suggest that evaluation questions must be reasonable, appropriate, answerable, and specific to their function (e.g., process or outcome evaluation). The first two research questions in this study relate to process evaluation:

RQ1: To what extent did SLHS advisors participate in the Kognito module, launch, and debrief meetings?

RQ2: What were SLHS advisors' experiences with the AP advising program?

This process evaluation consists of four parts: project implementation, context, participant responsiveness, and quality of implementation. Table 4.3 shows the details of the process evaluation, including research questions, indicators, data collection, and data analysis.

Table 4.3

Process Evaluation Matrix

Process Evaluation Question	Process Evaluation Indicator	Data Sources	Data Collection Tools	Frequency	Data Analysis
To what extent did SLHS advisors participate in the Kognito module, launch, and debrief meetings?	Completion status of online module and attendance at launch and debrief meetings	Participants and author	Kognito certificate of completion, attendance logs	Kognito certificates collected once before the launch meeting; attendance logs collected after each of the two meetings	Descriptive statistics
What were SLHS advisors' experiences with the AP advising program?	Participants' perceptions of (a) the quality of the facilitator and program content (i.e., launch meeting and supplemental materials), (b) their process for using AP advising, (c) engagement with implementing AP advising with students, and (d) interest, satisfaction, challenges, and opportunities with the AP advising program	Participants and author	Focus groups, research log with field notes from informal conversation with participants	Focus groups in December 2019, research log September-December 2019	Inductive thematic analysis

Project implementation. Stufflebeam (2003) suggests that an examination of project implementation provides information about the extent to which a project is carried out as planned. Project managers benefit from learning about the schedule and efficiency of a project as it unfolds because the actual implementation may differ from the plan. Formative assessment of project implementation also provides the opportunity to modify and improve implementation as a project unfolds (Stufflebeam, 2003).

In this intervention, the specific implementation goals for participants included completion of the Kognito module and attendance at two professional development meetings (i.e., one launch and one debrief meeting). The indicators for project implementation were the participants' completion of the Kognito module and attendance at the launch and debrief meetings. The indicators were measured quantitatively using participants' certificates of completion and the facilitators' attendance logs from the meetings. Completion of the Kognito module and attendance at the meetings align with both the logic model and theory of treatment. Kognito completion and meeting attendance are activities in the logic model, and the theory of treatment suggests that both completion of Kognito and attendance at the meetings will increase participants' knowledge about identification and referral of distressed students (Albright & Schwartz, n.d.; Rein et al., 2018) the appreciative advising framework (Bloom et al., 2008), and praxis advising strategies (Hemwall & Trachte, 1999), respectively.

Context. In addition to meeting attendance and Kognito module completion, participants implemented AP advising in meetings with students. Advising literature suggests the influence of various factors on advising meetings, such as time, advising techniques (Bloom et al., 2008), and students' and advisors' perceived roles (Allen & Smith, 2008; Dillon & Fisher, 2000; Harborth, 2015). Baranowski and Stables (2000) consider contextual or environmental factors that may influence participants' implementation of an intervention as part of the context component of process evaluation. Dusenbury, Brannigan, Falco, and Hansen (2003) suggest that organizational characteristics such as administrative support, school culture, and funding may also influence implementation. In this intervention, advisors may have encountered

contextual factors that acted as facilitators (e.g., university support for improved advising) or barriers (e.g., limited time secondary to teaching load) associated with implementing AP advising.

Context includes factors that may be unique to the setting of the intervention and therefore may influence both the participants' experiences of the intervention and the generalizability of a study (Baranowski & Stables, 2000). For example, the logic model includes contextual factors as inputs, such as advisors' time, AP advising meeting content, and supplemental materials (e.g., resources with AP advising framework and strategies). The re-accreditation of the graduate program co-occurring with this intervention is a relevant contextual external factor identified on the logic model.

The indicators for context include the participants' perceptions of contextual factors that facilitated or inhibited the use of AP advising. The indicators were measured using qualitative semi-structured focus groups at the end of the intervention and informal feedback throughout the program. Qualitative methodology was selected because of the deeply situated and contextual focus of qualitative inquiry (Lochmiller & Lester, 2017) that permits exploration of the barriers and facilitators associated with implementing AP advising strategies.

The semi-structured design using a general interview guide approach (Turner, 2010) is intended to provide the facilitator with a general structure for the discussion while also encouraging follow-up questions and the progression of natural conversation. Facilitating natural conversation in the focus groups is a discovery-based approach that requires open-ended questions and the facilitators' willingness to allow participants to share their experiences freely (Chenail, 2011). Each focus group lasted 45 to 60 minutes

and occurred in person and using video web-conferencing through Zoom, depending on participants' schedules and preferences. The focus groups were audio recorded using Recorder+ and transcribed live using Otter.ai, an online transcription service. All three applications were used on password protected devices.

Participant Responsiveness. Contextual factors influence participant responsiveness, which is the third process evaluation component for this intervention. Participant responsiveness is the degree to which participants participate in the program, and it is one of five measures of the fidelity of program implementation proposed by Dusenbury et al. (2003). Participant responsiveness differs from project implementation by focusing on the extent of participants' engagement with a program, rather than attendance and completion as measured by project implementation. In this intervention, participant responsiveness relates to the extent to which participants implemented AP advising strategies in advising meetings with students. Specifically, participant responsiveness means that participants used the first three phases of Bloom et al.'s (2008) appreciative advising framework (i.e., Disarm, Discover, and Dream phases) and infused praxis questions (Hemwall & Trachte, 1999; Smith, 2002) within the Discover phase.

The indicator for participant responsiveness is participants' self-perceived engagement in AP advising. Methods to measure the indicators for context and quality of program delivery included a research log and semi-structured focus groups. The author maintained a research log with field notes to document field informal feedback for use in the formative and summative assessments of the intervention program. Similar to context, inquiry about participant responsiveness included informal feedback and semi-structured focus groups that used a flexible, iterative, and inductive approach

(Onwuegbuzie & Leech, 2006). Focus group questions specific to participant responsiveness are listed in the interview guide (see Appendix H) and included:

- To what extent were you engaged in implementing AP advising when you met with your students?
- What was your process for using AP advising?

Participant responsiveness is particularly relevant to this work because of the nature of AP advising. Bloom et al. (2008) call appreciative advising a revolution because advisors must commit to the framework and engage deeply with students. Similarly, Smith (2002) describes effective praxis advisors who ask critical questions about students' learning, including course content, perceived relevance, learning outcomes, and takeaway messages (i.e., action in class, followed by reflection with the advisor), suggesting the relevance of measuring participant responsiveness for advisors using AP advising strategies.

Additional questions about participant engagement included asking if participants thought ahead about using AP advising, how they used supplemental materials (e.g., resources with AP advising content, articles and videos related to AP advising), and how AP advising varied with different students. Questions specific to the Disarm, Discover, and Dream phases of the appreciative advising framework and action and reflection cycles inherent in praxis advising were asked to learn about participants' experiences with particular elements of AP advising (see Appendix H).

Quality of program delivery. Finally, the fourth process evaluation component focuses on the quality of program delivery, or participants' opinions about how the facilitator administered the program and the quality of the activities (Dusenbury et al.,

2003). The indicator is participants' perceptions of the quality of the facilitator and program content (i.e., content in the meeting and supplemental materials) that influenced program delivery, which was measured using participants' informal feedback and semi-structured focus groups. Questions about program delivery included:

- What was your experience of the quality of the launch meeting?
- What was your experience of the quality of the supplemental AP advising content?

Follow-up questions focused on specific elements of the launch meeting based on Keller's (1987) Attention, Relevance, Confidence, Satisfaction model of learning for professional development. Questions related to the facilitator's ability to gain and sustain participants' attention, perceived relevance of the content, participants' confidence to implement AP advising after the meeting, and participants' satisfaction or sense of accomplishment upon learning about AP advising (see Appendix H) provided relevant data from which to assess the quality of the program. Additional questions about the supplemental materials addressed the delivery of materials via email, and the relevance of the materials. Inquiry about the quality of program delivery addressed participants' perceptions of how the activities on the logic model were carried out, and the theory of treatment depends on a quality intervention to lead to the intended outcomes.

Outcome Evaluation

The process evaluation is a formative assessment of program implementation, while the outcome evaluation examines the proximal outcomes of the intervention. Outcome evaluations measure change over the course of a program and determine: (a) if the cause (i.e., the intervention program) preceded the effect (i.e., outcomes), (b) the

relationship between the cause and effect, and (c) if there are any other plausible explanations for the effect (Shadish, Cook, & Campbell, 2002). Rossi et al. (2004) also suggest that measuring change is not enough to claim that the intervention contributed to the change. Rather, constructs must be defined clearly, and threats to internal and external validity should be explicitly identified, along with modifications and procedures aimed at mitigating the threats. Validity threats and mitigation were described in the research design section and are expanded upon in the data collection section. This section will present the outcome questions, followed by design for the outcome evaluation plan and a matrix with outcome evaluation details. The outcome questions are:

RQ3: To what extent did AP advising change SLHS advisors' knowledge of appreciative and praxis advising strategies and identification and referral of at-risk students?

RQ4: To what extent did AP advising change SLHS advisors' perceived preparedness to identify and refer at-risk students?

RQ5: To what extent did SLHS advisors' use of AP advising strategies change as a result of the AP advising program?

RQ6: To what extent did SLHS advisors' perceptions of their roles change after AP advising?

Participants completed pretest and posttest surveys and participated in pretest and posttest focus groups. Pretesting occurred in September and posttesting occurred in December 2019. Table 4.4 includes details of the outcome evaluation questions, constructs, and data collection and analysis plans. This study did not seek to explore

long-term outcomes due to time constraints. However, those should be considered in the design and implementation of future studies.

Table 4.4

Outcome Evaluation Matrix

Outcome Evaluation Question	**Construct**	**Data Source**	**Data Collection Tools**	**Data Analysis**
To what extent did AP advising change SLHS advisors' knowledge of appreciative and praxis advising strategies?	Knowledge of (a) appreciative advising strategies, (b) praxis advising strategies, and (c) identification & referral of at-risk students	Participants and author	Focus groups; research log with field notes documenting participants' informal feedback	Inductive thematic analysis
To what extent did AP advising change SLHS advisors' preparedness to identify and refer at-risk students?	Advisors' preparedness to identify and refer at-risk students	Participants and author	Gatekeeper Behavior Scale (Albright et al., 2016), questions 1-5; focus groups; research log with field notes documenting participants' informal feedback	Descriptive statistics, inferential statistics; inductive thematic analysis
To what extent did SLHS advisors' use of AP advising strategies change as a result of the AP advising program?	Advisors' use of AP advising strategies	Participants and author	Gatekeeper Behavior Scale (Albright et al., 2016), questions 6, 7; focus groups; research log with field notes documenting participants' informal feedback	Descriptive statistics, inferential statistics; inductive thematic analysis
To what extent did SLHS advisors' perceptions of their roles change after AP advising?	Advisors' perceived roles	Participants	Inventory of Academic Advising Functions – Faculty (Allen & Smith, 2008), questions 1-12; focus groups; research log with field notes documenting participants' informal feedback	Descriptive statistics, inferential statistics; inductive thematic analysis

Methods

The following section describes the details of the participants, measures, procedures, intervention components, and data analysis of the study.

Participants

Convenience sampling for the study included a few selection criteria, and participation was voluntary for everyone who met the criteria. All participants had to be current undergraduate SLHS faculty advisors at the university who were willing to complete the Kognito module, attend the launch and debrief meetings, complete pretests and posttests, and be open to learning about new advising practices. Ten faculty advisors meet the criteria, including the author and one advisor who was on sabbatical during the Fall 2019 semester, leaving eight potential participants. The convenience sample of eight faculty advisors were invited to participate by email from the author (Appendix I). Six of the eight agreed to participate. One of the six had completed the Kognito module previously and the number of advising training meetings attended in the past year varied. One participant had not attended any meetings, three participants attended one meeting, one participant attended three meetings, and one attended four advising training meetings in the past year. Table 4.5 provides additional details about participants' characteristics, including number of years as a faculty member, years as a faculty member at the university, number of years advising, and years advising at the university.

Table 4.5

Participant Characteristics

	Min	Max	Median	Mean
Years as faculty member	10	28	22.5	21.5
Years as faculty member at the university	5	28	20.5	17.7
Years as faculty advisor	12	28	16.5	18
Years as faculty advisor at the university	4	28	8	10.5

The participants were an experienced group of faculty members and advisors with many years of collective experience in teaching and advising at the university and other institutions.

Measures

Two Likert-scale surveys were used to collect quantitative data for the outcome evaluation: the Gatekeeper Behavior Scale (GBS; Albright et al., 2016; see Appendix F) and the Inventory of Academic Advising Functions – Faculty (Allen & Smith, 2008; see Appendix E).

Gatekeeper Behavior Scale. The GBS is an 11-item survey intended to assess participants who complete the Kognito At-Risk module with questions on three subscales: faculty members' preparedness, likelihood, and self-efficacy for identification and referral of distressed students. Table 4.6 includes the three subscales and related test items.

Table 4.6

Gatekeeper Behavior Scale Items

Subscales	**Items**
Preparedness	1, 2, 3, 4, 5
Likelihood	6, 7
Self-efficacy	8, 9, 10, 11

The five preparedness items are scored on a Likert scale ranging from 1-very low to 5-very high and follow the prompt "How would you rate your preparedness to" with statements such as "recognize when a student's behavior is a sign of distress" and "motivate students exhibiting signs of psychological stress to seek help." Likelihood questions include "How likely are you to discuss your concerns with a student exhibiting signs of psychological distress" and "How likely are you to recommend mental health/support services (such as the counseling center) to a student exhibiting signs of psychological distress?" and the responses range from 1-very unlikely to 4-very likely. The self-efficacy subscale uses a Likert scale from 1-strongly disagree to 4-strongly agree and includes statements such as "I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress s" and "I feel confident that I know where to refer a student for mental health support." Self-efficacy was not addressed in this study.

Albright et al. (2016) conducted a study with almost 9,000 participants to determine the validity of the GBS. Construct validity, criterion validity, and convergent validity were examined using confirmatory factor analysis. A Cronbach's alpha of 0.93 suggests high internal consistency and the items in each subscale correlated best with the

respective subscales. Additionally, participants' pretest and posttest GBS scores were significantly different ($p < .01$) and Cohen's d= -1.02. The large effect size suggests that the difference in scores was due to the training and supports the strong construct validity of the GBS. Criterion validity was established by comparing GBS scores to participants' gatekeeper behaviors three months following the training. Scores on the Preparedness and Likelihood ($p < .05$) and Self-Efficacy ($p <.01$) subscales were significant predictors of gatekeeper behaviors three months after the training. Finally, convergent validity was assessed for the Self-Efficacy subscale to compare efficacy related to gatekeeper behavior and general self-efficacy. Albright et al. report a robust correlation ($r = .43$, $p <.01$), suggesting a high correlation between gatekeeper self-efficacy and general self-efficacy, but the two constructs remain distinct. Rein et al. (2018) conducted a recent study with 2,727 participants and also found significant gains in Preparedness, Likelihood, and Self-Efficacy scores between pretest and posttest scores following the Kognito At-Risk module.

Inventory of Academic Advising Functions – Faculty. Allen and Smith (2008) developed the Inventory of Academic Advising Functions – Faculty (IAAF; see Appendix E) two years after the student version of the inventory was published (Smith & Allen, 2006). The faculty version contains 12 academic advising functions developed from the advising literature, all of which are ranked by faculty using six-point Likert scales in three categories: Importance (i.e., advisors' perceived importance of the particular type of advising to students), Responsibility (i.e., advisors' perception of responsibility for providing the particular type of advising), and Satisfaction (i.e., advisors' satisfaction about providing advising in the particular area). Advising areas

include developmental areas such as: “academic advising that helps undergraduate students connect their academic, career, and life goals” and procedural areas such as “advising that assists undergraduate students with understanding how things work at this university (understanding timelines, policies, and procedures with regard to registration, financial aid, grading, graduation, petition and appeals, etc.)." Two questions address advisors' roles in referring students for help: "academic advising that refers undergraduate students, when they need it, to campus resources that address academic problems (e.g., math or science tutoring, writing, disability accommodation, testing anxiety)" and "academic advising that refers undergraduate students, when they need it, to campus resources that address nonacademic problems (e.g., childcare, financial, physical and mental health)." Following the IAAF, participants were asked to rank the top five academic advising functions in terms of perceived importance.

Procedure

The procedure for AP advising includes the components of the intervention, as well as formative and summative data collection and data analysis. This section will describe the intervention, including the online Kognito module, launch meeting, supplemental materials, and wrap-up meeting, and details of the data collection and analysis procedures.

Data Collection

Data collection took place throughout the program and included measures of quantitative and qualitative indicators. The convergent parallel mixed methods design specifies simultaneous and separate collection and analysis of quantitative and qualitative, respectively, followed by a synthesis of the results (Mertens, 2018). Table

4.7 shows the data collection methods and timeline, and this section describes the details of the process and outcome data collection procedures.

Table 4.7

Data Collection Methods and Timeline

Measure	**Process / Outcome**	**Quantitative**	**Qualitative**	**Data Collection Type**	**Timeline**
Attendance	Process	x		Attendance records from launch and wrap-up meetings	September 2019 and April 2020
Kognito completion	Process	x		Certificates of completion	September – December 2019
Pre/post survey -Gatekeeper Behavior Scale -Inventory of Academic Advising Functions – Faculty	Outcome	x		Web-based survey	September 2019 and December 2019
Focus groups	Process and Outcome		x	Transcripts	September 2019 and December 2019
Informal feedback via water cooler discussion	Process and Outcome		x	Research log	September – December 2019

Process evaluation data collection. Process evaluation data, or formative data, were collected quantitatively with attendance records and Kognito certificates of completion and qualitatively with semi-structured focus groups and research logs with informal feedback from participants in the context of unstructured discussion in the SLHS department. The author took and recorded attendance at the launch and wrap-up meetings and participants emailed downloaded Kognito certificates to the author by

December 2019. Attendance and Kognito completion were collected to measure participation, or project implementation.

Focus groups were conducted by the author before and after the program and included process questions related to participant responsiveness, context, and quality of program delivery. The focus groups lasted about 45 minutes and took place in-person in the SLHS department or by video conference using Zoom, depending on the participants' schedules. Focus groups were recorded Zoom and transcribed using Otter.ai on password protected devices. Transcripts were then uploaded to Atlas.ti 8 for analysis. Occasionally, participants also provided informal, formative feedback to the author throughout the study when participants stopped into the author's office to talk about their experiences with AP advising throughout the program, from August through December 2019. The author kept a research log with field notes documenting the informal feedback.

Qualitative data collected by focus groups and the research log were invaluable to the study because they provided access to the participants' voices and gave context to the participants' experiences of the AP advising program. However, qualitative data are subject to validity threats because the researcher is the instrument and interpretations may be subjective and influenced by the researcher's biases (Creswell & Miller, 2000). Table 4.8 shows the steps taken by the author to address the threats to validity, or trustworthiness, of the qualitative data in this study, as suggested by Creswell and Miller (2000) and Guba (1981).

Table 4.8

Validity Threats & Mitigation

Trustworthiness Threat	Step to Mitigate	Description
Confirmability	Researcher reflexivity	Transparency about author's biases related to the desired results of the study, personal interest in appreciative and praxis advising
Transferability	Thick description	Detailed description of the context of the study, including SLHS department, university, and characteristics of the participants
Credibility	Peer debriefing	Periodic meetings with dissertation committee members to share details of implementation and data, discuss adherence to the program, and make changes as appropriate.
Credibility	Member checking	Intermittent checks with participants during and after focus groups to make sure the data and analysis are consistent with participants' intended messages
Credibility Dependability	Triangulation	Use multiple data sources by comparing results from surveys, focus groups, and informal feedback to corroborate analysis and conclusions
Dependability	Audit trail	Maintenance of a detailed log of AP advising program plan, actual implementation, and anticipated and unanticipated events

Outcome evaluation data collection. Outcome evaluation, or summative data, were also collected using mixed methods, with quantitative surveys and qualitative focus groups and informal feedback. Pretest and posttest surveys were administered electronically using Qualtrics in September 2019 and December 2019, respectively. The author emailed links to the Qualtrics survey to participants. Survey data were collected via Qualtrics and then downloaded to Excel and SPSS for analysis. All data were maintained on password protected devices. The same data collection procedures occurred for process and outcome informal feedback and focus group data, although outcome evaluation data were collected to address questions related to proximal outcomes such as changes in advisors' knowledge of AP advising and addressing at-risk students, advisors' use of AP advising strategies, and changes to advisors' perceived roles after the AP advising program.

Data Analysis

Data analysis of the process and outcome data included descriptive statistics, inferential statistics, and inductive thematic coding. Table 4.9 shows the data analysis for each research question.

Table 4.9

Research Questions and Data Analysis

Research Question	Data	Collection Timeline	Analysis
RQ1 To what extent did SLHS advisors participate in the Kognito module, launch, and debrief meetings?	Attendance records Kognito certificates of completion	Attendance: September 2019, April 2020 Certificates: September through December 2019	Descriptive statistics
RQ2 What were SLHS advisors' experiences with the AP advising program?	Focus group transcripts Research log	Transcripts: September 2019, December 2019 Research log: September through December 2019	Inductive thematic coding
RQ3 To what extent did AP advising change SLHS advisors' knowledge of appreciative and praxis advising strategies?	Focus group transcripts Research log AP advising survey (original questions)	Transcripts & Survey: September 2019, December 2019 Research log: September through December 2019	Inductive thematic coding
RQ4 To what extent did AP advising change SLHS advisors' preparedness to identify and refer at-risk students?	Focus group transcripts Research log AP advising survey (Gatekeeper Behavior Scale)	Transcripts & Survey: September 2019, December 2019 Research log: September through December 2019	Inductive thematic coding Descriptive and inferential statistics
RQ5 To what extent did SLHS advisors' perceptions of their roles change after AP advising?	Focus group transcripts Research log AP advising survey (Inventory of Academic Advising Functions – Faculty)	Transcripts & Survey: September 2019, December 2019 Research log: September through December 2019	Inductive thematic coding Descriptive and inferential statistics
RQ6 To what extent did AP advising change SLHS advisors' use of AP advising strategies?	Focus group transcripts Research log	Transcripts & Survey: September 2019, December 2019 Research log: September through December 2019	Inductive thematic coding

Quantitative analysis. Survey data were collected with Qualtrics and then downloaded to Excel and SPSS for analysis. The quantitative analysis included descriptive statistics to determine and compare measures of central tendency for the

pretest and posttest AP advising survey data, and inferential statistics to examine differences in means. Specifically, the Wilcoxon signed rank test was used to determine differences in means for the nonparametric paired samples.

Qualitative analysis. Focus group transcripts and research log notes were uploaded to Atlas.ti 8 for analysis. Miles, Huberman, and Saldana (2014) suggest two cycles of coding qualitative data. In this study, the first cycle included descriptive and in vivo coding. Descriptive codes are labels assigned to chunks of data that help to categorize data into groups (Miles et al., 2014). Descriptive codes were a priori (i.e., established before the study based on existing literature) and emergent (i.e., authentically developed from the data). A priori codes included information provision, connections across academics, career, and life, and knowing students as individuals. Unanticipated codes that emerged from the data included class year differences, advising versus teaching, sequence of advising meetings, and meeting students where they are. In vivo coding was also used to capture the participants' voices (Miles et al., 2014), such as the following comment:

> For me, it [AP advising] has broadened my scope of practice in terms of being an advisor. I'm not just focused on, you know, getting people registered and leading them in the right, academic, so often you see yourself, we are called academic advisors, but it's more than just the academic, it's the cura personalis, it's the whole person. That's what has struck me in this process.

The second cycle of coding included pattern coding (Miles et al., 2014). In this study, pattern coding involved synthesizing codes to develop themes. Themes included start with the person, AP advising in teaching, and cura personalis: care for the whole person.

Both qualitative and quantitative analysis contributed meaningfully to the study, and the convergent parallel design had strengths and limitations.

Strengths and Limitations of Design

The convergent parallel design is a logistically feasible way to conduct a mixed methods study in a limited timeframe because of the simultaneous administration of the surveys and interviews (Creswell & Plano Clark, 2018). The study took place during one academic semester, and the convergent parallel design permitted more time for the intervention than a sequential design would have afforded. The logistical benefit of a using convergent parallel mixed method is a strength of the design. However, the primary benefit of mixed methods is to capitalize on the strengths of quantitative and qualitative approaches while also accounting for the limitations of each approach (Teddlie & Tashakkori, 2003). For example, quantitative research may be considered inflexible and lacking the participants' voices, while qualitative research is iterative and depends on participants' voices. Additionally, qualitative studies may have limited generalizability because of small samples and contextual specificity, while quantitative work permits isolation of variables and may be more generalizable, particularly with larger sample sizes (Lochmiller & Lester, 2017). In this outcome evaluation, the small sample size ($n = 6$) compromised the generalizability of survey outcomes, but survey results provided useful descriptive information, especially when triangulated with qualitative interview results.

The sample size is one of the primary limitations of this study and its one-group pretest-posttest design. According to a power analysis that was calculated using G*Power with a medium effect size of 0.5, alpha of .05, and power of 0.8 (values based

on convention and related literature, e.g., Chao, 2012; Tran, Lam, & Legg, 2018), the sample size should be 34. Therefore, the outcome evaluation did not have sufficient power to yield statistically significant results, and the ability to generate valid inferences about the causality of the intervention was compromised (Shadish et al., 2002). Increasing the sample size was considered by modifying selection criteria to include undergraduate advisors from departments outside of SLHS, but the SLHS context is critical to the study. Rather, Shadish et al. (2002) suggest transparency and explicit description of limitations such as a small sample size in studies using a one-group pretest-posttest design.

Small sample size and departure from randomization and control leave the study susceptible to threats to internal and external validity (Shadish et al., 2002). Specifically, the pretest-posttest design invites threats related to history and maturation because the author cannot control for outside influences on the participants between the pretest and posttest. History is a particularly relevant threat to this outcome evaluation because the university recently announced an improved advising initiative with optional training sessions for faculty advisors. If participants in the AP advising program also attended university-sponsored advising events, isolating the effects of AP advising would be impossible. Maturation refers to naturally occurring events that may impact the effects of the intervention, such as advisors' perceived relationships with students that may improve over time in the absence of the intervention (Shadish et al., 2002).

Because there is no feasible way to eliminate the threats of history and maturation, Shadish et al. (2002) suggest being explicit about the threats to show both their plausibility and possible effects on the results. Survey questions about participants'

exposure to other advising training provided quantitative data to identify validity threats, and power of mixed methods was leveraged by learning about participants' experiences of AP advising, outside advising programming, and history of advising relationships with students during the focus groups. Neither quantitative nor qualitative methods alone would provide the richness and depth of data to capture participants' experiences (Creswell & Plano Clark, 2018).

Conclusion

This study examined the experiences of six SLHS faculty advisors who completed the AP advising program. The program was hybrid style with a face-to-face launch meeting and online training modules and wrap-up meeting. The launch meeting included instruction about appreciative (Bloom et al., 2008) and praxis (Hemwall & Trachte, 1999) advising strategies and their potential application with SLHS students. Participants completed the online Kognito module and were provided with hard copy and electronic supplemental resources. The wrap-up meeting was conducted online using video conferencing via Zoom.

The implementation of AP advising strategies occurred during the advisors' regularly scheduled advising meetings with SLHS students. Advisors had a laminated handout with a visual depiction of the AP advising cycle with sample questions to ask at each stage (see Appendix D) and were also provided with online resources in a shared One Drive folder with information about the Design, Discover, and Dream stages of AP advising in a *what, why, try* format (Appendix J). Mixed methods pretest and posttest assessments included surveys and focus groups. The results, discussion, and implications for practice will be presented in chapter 5.

Chapter 5: Results and Discussion

The purpose of this dissertation was to examine stress in undergraduate students studying SLHS. A professional development intervention was carried out to improve advising practices by SLHS faculty advisors in an effort to change the social support provided to SLHS students. The intervention was a hybrid program with online training through Kognito and face-to-face meetings for participants to learn about and implement appreciative and praxis advising strategies. The results of the intervention will be presented in this chapter, beginning with the process evaluation, followed by the outcome evaluation, discussion, implications for practice, limitations, and concluding thoughts. The following research questions were addressed in the study:

RQ1: To what extent did SLHS advisors participate in the Kognito module, launch, and debrief meetings?

RQ2: What were SLHS advisors' experiences with the AP advising program?

RQ3: To what extent did AP advising change SLHS advisors' knowledge of appreciative and praxis advising strategies?

RQ4: To what extent did AP advising change SLHS advisors' preparedness to identify and refer at-risk students?

RQ5: To what extent did AP advising change SLHS advisors' use of AP advising strategies?

RQ6: To what extent did SLHS advisors' perceptions of their roles change after AP advising?

Process Evaluation

Process evaluation offers a way to examine the fidelity of implementation of an intervention program and included four parts: project implementation, context, participant responsiveness, and quality of implementation (Saunders et al., 2005). Project implementation was measured quantitatively with attendance logs and certificates of completion. Context, participant responsiveness, and quality of implementation were measured qualitatively with data from focus groups and informal conversation with participants. This section will discuss the advisors' participation and their experiences with the AP advising intervention to determine the level of fidelity of implementation.

Advisors' Participation

Project implementation, or participation in the AP advising program, was measured quantitatively in two ways: attendance at the launch and debrief meetings and completion of the Kognito module. All participants attended and actively participated in the launch and debrief sessions facilitated by the researcher. Participatory behaviors noted including engaging with the researcher and one another with spontaneous questions and comments and responding to scripted prompts. In response to a prompt to consider how they might advise two hypothetical students presented via brief case study, all participants offered relevant insights about their current advising practices and how they might think differently about the case studies after learning about AP advising.

Additionally, all participants completed the Kognito module and submitted certificates of completion to the researcher. Participants also participated in the debrief meeting, sharing insights about their best advising sessions with AP advising strategies

and discussing implications for practice after learning about the triangulated study results. Overall, participants participated actively in all intervention-related activities.

Advisors' Experiences

Participants' experiences with AP advising were primarily measured qualitatively through focus groups and informal conversations with participants recorded as field notes in a research log. Participants shared their insights about the quality of the AP advising program, their respective AP advising processes, engagement with AP advising, and barriers to AP advising during the focus groups.

Participants were asked about their perceptions of the quality of the AP advising program and responses were favorable regarding the hybrid approach. One participant remarked, "Oh, very good. I mean, because you're using different modalities you're tapping into different ways of learning. I mean for adults it's excellent and for our students it's excellent." Participants also commented on the logistical ease of participation, saying, "Yeah, I thought it was respectful of people's time which is always really appreciated. You know we can't do everything face-to-face so this was, this was a great alternative."

Participants also appreciated the supplemental materials, specifically the laminated handout with a visual depiction of the AP advising cycle with sample questions to ask at each stage (see Appendix D). One advisor said:

> The physicalness of the laminated sheet, I think those the articles, which are like 'oh I'll get to them.' Because the sheet you can post you're like 'Oh this is permanent! I'll put this on here,' so that's a great little reminder.

Another participant said she keeps the laminated sheet on top of her advising materials "not underneath, so that I remember to start there" as a physical reminder to begin sessions with AP advising questions, rather than course selection. Interestingly, three online resources were posted to a shared One Drive folder, one each for Discover, Dream, and Design (Appendix J), and none of the participants commented on the online content. The university and the Department of SLHS are making efforts to reduce paper use, and yet the advisors appreciated a laminated hard copy of the AP advising cycle more than online content because of its tangibility and visibility.

In addition to the benefits of the hybrid format of the AP advising program with supplemental materials, participants also commented on the value of coming together to reflect on current practices with colleagues. One participant commented,

> This experience has not just been good for me and my advisees and my students but good for us [faculty members]. Yeah, it gives us a give us a forum where we can get to know each other, we can learn from each other, we can grow with each other. This to me has been very helpful.

Action and reflection cycles are an integral element of Ignatian pedagogy (Mountin & Nowacek, 2012) and are also noted in professional development literature by Clarke and Hollingsworth (2002). Finding the time to come together to meet for the purpose of reflecting on teaching and advising is challenging, but one participant said she wished AP advising had required a midpoint focus group as an additional opportunity for reflective discussion, suggesting the value of prioritizing action and reflection.

Personal and professional barriers may have constrained participants' perceived implementation of the AP advising program, but the program did not specify the amount

of time or number of required advising meetings for full implementation. Overall, advisors' insights about their experiences with the AP advising, along with attendance records and certificates of completion, demonstrate that the AP advising program was implemented with fidelity. Saunders et al. (2005) suggest a program can be connected to its outcomes after a process evaluation determines a program was implemented with fidelity. AP advising was implemented with fidelity and the next section will examine the outcomes of AP advising.

Outcome Evaluation

Pretest and posttest questionnaires and focus group data informed the outcome evaluation for the AP advising program. Qualitative observations noted in the research log were also utilized, although they offered little additional data. The outcomes are proximal, as the intervention ran for one academic semester and posttesting was completed three months after the pretesting. As suggested by Shadish et al. (2002), this evaluation examined change over the course of the AP advising program. The AP advising outcome evaluation addressed changes in SLHS advisors' knowledge of appreciative and praxis advising strategies, preparedness to identify and refer at-risk students, advisors' perceptions of changes in their roles, and use of AP advising strategies.

Quantitative and qualitative data strands were collected and analyzed, and the following section presents the mixed-methods outcomes of the AP advising program. Survey data demonstrate subtle changes in participants' preparedness to identify and refer distressed students, and participants' perceived importance, responsibility, and satisfaction related to 12 academic advising functions. Most changes were not

statistically significant, but triangulation with qualitative data suggest the practical significance of shifts in participants' pretest and posttest survey responses. Qualitative data offered a rich account of participants' lived experiences of AP advising and Figure 5.1 outlines the codes and themes that emerged from thematic analysis of the focus group data.

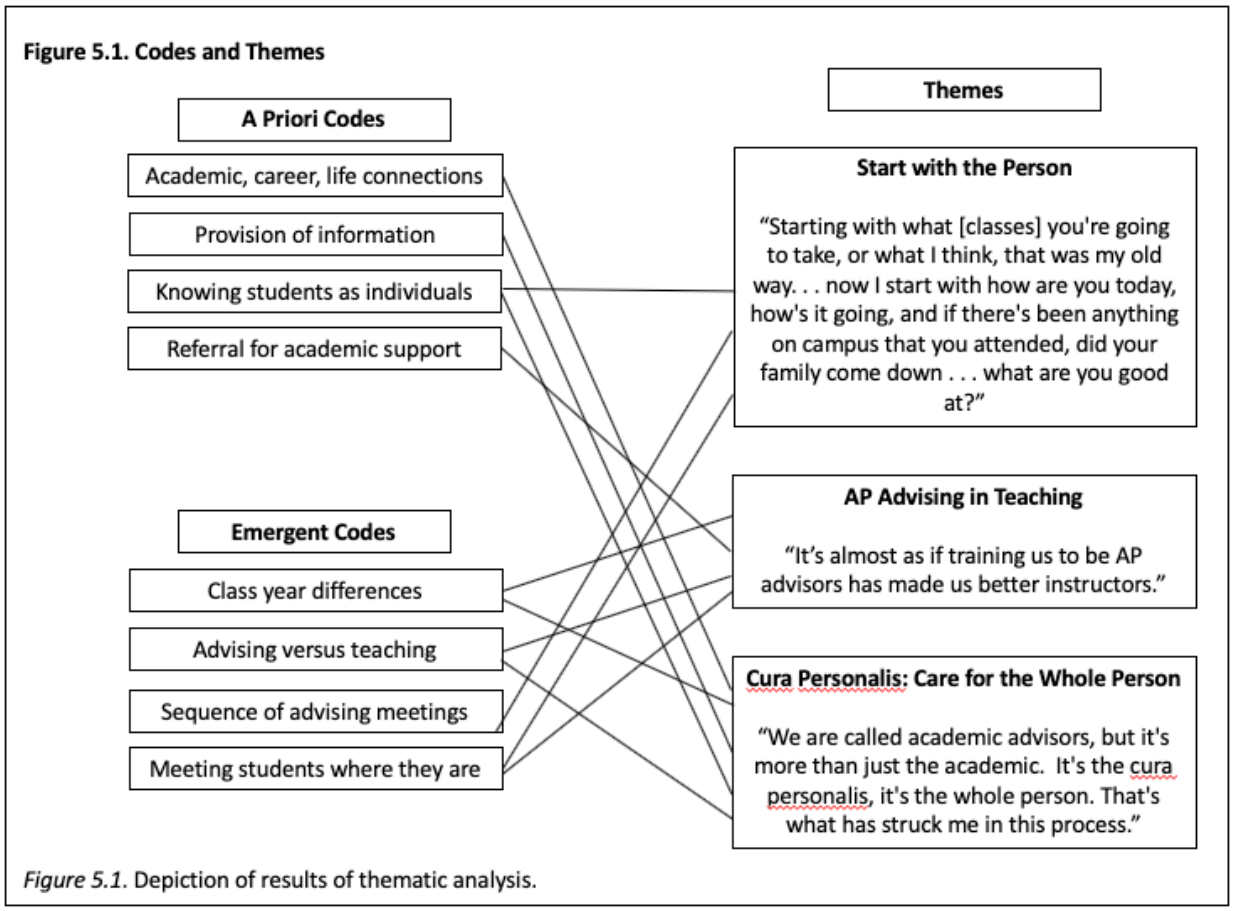


Figure 5.1. Depiction of results of thematic analysis.

A priori codes were gleaned from the literature about advising (Allen & Smith, 2008; NACADA, 2017; White, 2015) and emergent codes were authentically developed from the data. In vivo coding captured the participants' voices, as demonstrated with illustrative quotes for each theme in Figure 5.1. *Start with the person*, *AP advising in*

teaching, and *cura personalis: care for the whole person*, emerged as overarching themes of the focus group data. The themes represent the sequence of advising sessions (i.e., *starting with the person* rather than course selection), the applicability of AP advising concepts to support students in and beyond advising meetings (i.e., *AP advising in teaching*), and the holistic approach of AP advising (i.e., *cura personalis, or caring for the whole person*), which also reflects the Jesuit mission of the university. Together, survey and focus group data demonstrate shifts in participants' perspectives and practices related to AP advising, beginning with fundamental knowledge of appreciative and praxis advising.

AP Advising Knowledge

AP advisors' knowledge of appreciative and praxis advising strategies was measured with qualitative focus group data and the results demonstrated increased knowledge of both appreciative and praxis advising strategies after the intervention. The theme of *cura personalis: care for the whole person* developed as advisors described the holistic approach of supporting the whole student through AP advising. Cura personalis is an ideal that is fundamental to Jesuit education and includes attention educating the whole student, in body, mind, and spirit (Loyola University Maryland, n.d.) At the beginning of the pretest focus groups, advisors were asked about their knowledge of appreciative and praxis advising, and one advisor said, "When I saw that [the title of the program], I was like whoa, what does that mean?" Another joked and said, "I know what it means to study for the Praxis!" referring to a summative standardized test that SLHS students take in graduate school. Five of the six advisors did not have any prior knowledge about AP advising strategies. Only one advisor had some prior advising

training at the university level that involved appreciative advising and she shared the following insight:

> It's really kind of understanding the student on a on a broader level. And it's really trying to, like I said, match up some of, you know, some of their ideas and ideals and strengths, with, you know, courses, but giving them some autonomy in those selections and those ideas. So, for example, you know, I have 16 Messina students and they're all like, you know, gung-ho, you know gung-ho speech and hearing or audiology, and I am very cautious about that. And I'm like, okay, that's great. I'm glad you enjoy that. I'm glad you like that. But you know, Loyola has a lot of other things to offer, and you might change your mind. And that's okay, if you change your mind, you know, it's good to explore. Let's talk about, you know, what we're good at, and high school. Kind of giving them some direction and showing them the different opportunities that are available to them. And this goes beyond just courses too. You know, it can be clubs, it can be resources, it can be Career Center, kind of pushing them in that direction for more exploration. So it can be a variety of things.

The advisor's comment suggested she understands the strengths-based approach to AP advising and that advisors guide students through a discernment process that begins with students' strengths and interests that may be identified by looking at past experiences (e.g., high school). She also encouraged students' freedom to explore outside of their declared major. The advisor added a critical element of AP advising by recognizing that advising extends beyond course selection. In essence, she shared the intentional shift away from prescriptive advising and movement toward a holistic approach, without the technical terminology. The advisor who shared these insights was the only one of the six

participants who knew anything about appreciative or praxis advising before the AP advising program.

Posttest focus group data demonstrated that advisors learned about AP advising strategies, and they described corresponding shifts in their advising procedures. For example, several advisors stated that they changed their advising sessions to begin with appreciative personal interactions rather than transactional course selection discussion for the purpose of getting to know students and their strengths before moving into registration details. With respect to praxis advising, Smith (2002) suggests that praxis advisors ask questions that prompt students to consider their experiences relative to the mission of the university. One of the participants shared her realization of thinking more broadly about advising:

> For me, it has broadened my scope of practice in terms of being an advisor. I'm not just focused on, you know, getting people registered and leading them in the right, academic, so often you see yourself, we are called academic advisors, but it's more than just the academic. It's the cura personalis, it's the whole person. That's what has struck me in this process.

Cura personalis is a direct connection to the mission of the university, aligning AP advising with the university's larger purpose, which reflects praxis advising (Smith, 2002). The advisors demonstrated a change in their knowledge of both appreciative and praxis advising practices over the course of the intervention program.

Advisors' Preparedness

In addition to increased knowledge of AP advising, advisors' preparedness to identify and refer at-risk students also changed. Advisors' preparedness was

demonstrated by the questionnaires and focus group discussions and the data together offered a set of patterns about participant preparedness. Specifically, the codes of *meeting students where they are* and *knowing students as individuals* contributed to the theme of *cura personalis: care for the whole person* that emerged through analysis of focus group transcripts and survey results.

Questions from the Gatekeeper Behavior Scale (Albright et al., 2016) addressed advisors' preparedness before and after the intervention. Each question began with the prompt "How would you rate your preparedness to…" and was scored on a five-point Likert scale ranging from very low to very high. Results are depicted in Table 5.1. The first two preparedness items, preparedness to recognize when a student's behavior is a sign of psychological distress ($Z = -2.000$, $p = .046$) and preparedness to recognize when a student's physical appearance is a sign of psychological distress ($Z = 2.121$, $p = .034$), demonstrated a statistically significant at the $p \leq .05$ value using a Wilcoxon signed rank test. The increases reflect the theme of *cura personalis: care for the whole person* as advisors felt more prepared to focus on students beyond course selection and academic concerns.

Table 5.1

Gatekeeper Behavior Scale results

	Pretest Mean (SD)	Posttest Mean (SD)
Preparedness: How would you rate your preparedness to…		
Recognize when a student's behavior is a sign of psychological distress	**3.33 (.516)**	**4.00 (0)**
Recognize when a student's physical appearance is a sign of psychological distress	**3.00 (.632)**	**4.00 (0)**
Discuss with a student your concern about the signs of psychological distress they are exhibiting	3.00 (.632)	3.67 (.516)
Motivate students exhibiting signs of psychological stress to seek help	3.33 (.516)	3.50 (.548)
Recommend mental health support services to a student exhibiting signs of psychological distress	4.00 (0)	3.83 (.408)
Likelihood: How likely are you to…		
Discuss your concerns with a student exhibiting signs of psychological distress	3.00 (0)	3.33 (.516)
Recommend mental health support services to a student exhibiting signs of psychological distress	3.5 (.548)	3.67 (.516)
Confidence: I feel confident…		
In my ability to discuss my concern with a student exhibiting signs of psychological distress	2.83 (.408)	3.17 (.408)
In my ability to recommend mental health support services to a student exhibiting signs of psychological distress	3.00 (0)	3.33 (.516)

	Pretest Mean (SD)	Posttest Mean (SD)
That I know where to refer a student for mental health support	3.33 (.516)	3.67 (.516)
In my ability to help a suicidal student seek help	2.5 (.548)	3.35 (.816)

Note: Bolded values represent statistical significance at $p \leq .05$ value

Additional questions asked about participants' confidence to identify and refer at-risk students. The questions began with the prompt "I feel confident in my ability to…" and were scored on a four-point Likert scale of agreement, ranging from strongly disagree to strongly agree. Notable results include two test items for which the mean shifted from disagree to agree on the Likert scale: "I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress" (pretest mean 2.83, posttest mean 3.17) and "I feel confident in my ability to help a suicidal student seek help" (pretest mean 2.5, posttest mean 3.35). Although the differences between the pretest and posttest scores are not statistically significant according to the Wilcoxon signed rank test, the shift from disagree to agree related to confidence in discussing concerns and helping suicidal students to seek help suggests practical significance that may improve advising practices and benefit students.

Pretest focus group results. Focus group discussions provided depth to the quantitative results by contextualizing advisors' experiences with identifying and referring at-risk students. Pretest discussion revealed variation in advisors' preparedness, but all advisors demonstrated some degree of *meeting students where they are* or attempting to *know students as individuals*. For example, one advisor seemed unsure of

how to distinguish a routine bad day from distress when asked about her preparedness to identify and refer students who need additional support:

> I would say medium. You know, I mean, sometimes it's very apparent, and other times, there might be a sign or two, but it could be that they're just having, I mean, everybody has a bad day. So I guess I'm, I'm a little reluctant to approach someone who might not. If I feel like they are, it doesn't frighten me to try to approach them about that. But I would say I'm less likely to, unless there are some very outward signs. So I guess it depends on the person.

Another advisor commented on the referral part of the question as she discussed knowing about campus resources, but not necessarily when to refer students to the services:

> I feel like Loyola has gone to a lot of effort recently to make us aware of the different services and things on campus. From a 'what you do' standpoint. I know where the Counseling Center, I know where Disability Support Services, or our medical offices, I know these things. That piece of I don't know is how prepared I am to say, 'I have to take you over there right now.' I feel like I'm getting closer to that.

On the other hand, a different advisor did not feel as well-versed in the campus resources, but expressed comfort identifying students who need additional support:

> I know about the Counseling Center. But other than that, I don't know the resources. I do however, feel comfortable. I haven't had a student who has raised the red flag for me for having those kinds of issues. Some issues, definitely. But not those kinds of issues where I think let me get you to the Counseling Center or for medical care or something immediately, at the undergraduate level.

Finally, a fourth advisor relayed her experience as a practitioner with a background in mental health work, extensive knowledge of the university support system, and yet she candidly shared how she missed identifying a student who was in distress and withdrew from the university:

> So, I feel pretty comfortable with the students I am advising because before coming into higher education, I spent 18 years working with kids with emotional behavioral problems. So, I think I had a little bit of background in that. Also, I'm aware of the increase in anxiety, depression, among the general population and in higher ed, too. And also, the increase in the individual identifying learning issues. So, from that vantage point, I'm pretty comfortable. Now, what was bothersome to me with this student that left the program is that I hadn't a clue. I mean, I hadn't met with her, and I've only had two classes with her and the common text gathering. So maybe three meetings. But she sat in front, she looked good. She was prepared, she raised her hand. I mean, she's like, she's like the model student. And so, when this came up, I was like, not her, I would pick someone else, but not her. And what it was, is it was kind of a mix of separation anxiety and social anxiety. But it was definitely anxiety related. She was far from her family in Massachusetts, very close to her family, kind of comes, some of the common stuff that we hear, but I just hadn't had an opportunity to get to her.

The advisors' pretest responses demonstrate splintered knowledge and preparedness across SLHS faculty about the types of university services that are provided to support students in distress and about preparedness to refer students to services. Variation may be due to factors such as context and advisors' experience. For example, advisors'

experience and knowledge may influence how much they know versus how much they think they know about identifying and referring students who need additional support.

Posttest focus group results. Posttest focus group discussion revealed some changes in advisors' preparedness to identity and refer at-risk students that included *meeting students where they are* and *knowing students as individuals*. One advisor commented on how the Kognito module helped her to recognize that she might have been missing subtle signs of students' distress over the years:

> Attending the Kognito piece helped me recognize that I was probably missing students that had more stress than I had previously been aware of, you know that squeaky wheel kid got so much attention, but some of those silent withdrawn kids, I probably over the years have missed some of their signs.

Another advisor shared that her awareness of looking for distressed students has increased, but her feelings of preparedness to address the students are slower to develop:

> I'm still, I'm still not I guess as comfortable then to as to the, what next, you know, like, do you just flat out approach? I mean I know what we've done in terms of the modules, in terms of students, and you're saying that, but again, if it's a student in my class, then I might then go, I guess to the advisor or oftentimes if it's something I really see that's really very troubling to me that I might just go straight to like somebody over in that office [dean of students] just to, you know, to do that, but I guess I'm still having that problem of initiating a conversation around that, if it's a student that I don't really have a good established relationship with, you know what I'm saying, I just sort of I feel like it's out of the blue and

> that student might just go turn around and go run away from me. In terms of, you know like, you know, just not really engaging.

The advisor's unease about how students might react to her concerns initiated a conversation around how to approach students. The group discussed direct conversation with students and also the benefits of a less direct approach such as an email expressing concern about the student's wellbeing. One advisor discussed the benefit of taking the initiative to discuss a students' wellbeing, and that she might not have addressed him before the AP advising program, demonstrating *cura personalis: care for the whole person*:

> I have a student that's on the third concussion this semester, and I've tried to encourage him to go to DSS and get temporary kinds of accommodations and things. He's terrible about following up but he is good about coming to my office. I do feel like, I don't know that I would have been taking the extra step to say hey, why do you look so sleepy in class and things. Had it not been really for training like this I would have been like 'oh, another sleepy student.'

Triangulated results. Triangulated pretest and posttest questionnaire and focus group demonstrate that SLHS advisors feel concern for their students' wellbeing and have varying degrees of preparedness to identify and refer at-risk students. The quantitative results have minimal statistical significance, but this is not surprising considering the small number of participants and proximal surveying in the study. Although advisors felt prepared to identify the students who did indeed need help, survey results considered alone may suggest limited change across the AP advising program. However, the thick description of focus group discussions provides rich context and tells a compelling story

of advisors with increased awareness and emerging preparedness to identify and refer at-risk students, contributing to the theme of *cura personalis: care for the whole person*. For example, we heard in the focus groups about specific instances of recognizing students in distress, such as a chronically sleepy student and others who miss class, two behaviors that may seem typical of college students, but were unusual for the students themselves, demonstrating the importance of *knowing students as individuals*. Overall, preparedness to identify and refer at-risk students seemed to increase slightly and inconsistently across participants. Similarly, advisors' use of AP advising strategies varied across the AP advising program.

Use of AP Advising

Advisors' use of AP advising was examined with qualitative focus group data exclusively. Advisors provided thoughtful insights about their use of the strategies that predominantly related to two themes: *start with the person* and *AP advising in teaching*. Starting with the person means that advisors intentionally began sessions by talking with students about their experiences, strengths, and interests, rather than beginning with course selection. All advisors contributed to the conversations about starting with the person, and that seemed to be the most evident change in the use of AP advising. This makes sense as Disarm and Discover are the initial steps in the appreciative advising cycle (Bloom et al., 2008) and they involve questions intended to make students comfortable and ask about them personally. Secondly, as participants considered their roles as AP advisors who value deep connection with students, several expressed the use of AP advising with their students in class, extending the reach of AP advising beyond

formal advising meetings. One advisor remarked "It's almost as if training us to be AP advisors has made us better instructors."

Another advisor shared the following reflection on starting with a focus on the person as she thought about the sequence of her advising sessions before and after AP advising:

> I think the order of how information is shared [has changed]. Starting with what you're going to take, what *I think*, that was my old way. Okay, how have you organized your schedule, what are you going to take. I think I close with that now. Now I start with more, how are you today, how's it going, and if there's been anything on campus that you attended, did your family come down.

Another advisor candidly discussed students' surprise when she engaged them in personal conversation before getting down to course selection business: "So yeah they were looking at me like I had three heads, no not all, but particularly with my reputation, so yeah it was like 'What? You want to talk?'" A third advisor succinctly and poignantly summarized her colleagues' contributions by saying, "Don't start with the academics. Start with the person." Her statement inspired the name of the *start with the person* theme.

Starting with the person seemed to resonate with advisors, as they commented on attending to their students in class differently after participating in the AP advising program, which prompted the emergence of the *AP advising in teaching* theme. One advisor said:

> They will all have a student-instructor interaction, I thought. And not more about a student-advisor interaction. Because sometimes your advisees are not your

> students. For me, I just see some of them [advisees] once a semester. And in that one meeting, I really can't do too much assessment. If I have them in a classroom, I think I've said that to Brianne before, if I have them in a classroom over time, I can make those observations.

She went on to say: "I think that these strategies are not, just should not be just be confined to the advisor-advisee relationship, but to all students who are in need and who need that kind of connection." Another advisor elaborated on how she applied AP advising in her courses:

> I haven't had that much with the advisees, but looking at students in my class, it really helped quite a bit in terms of thinking through some of the students and, you know, some of the things that seem, you know, a little off that I maybe have, you know, I pushed off as just being a quirky student. And now, looking at that differently, in terms of what might, there might be something underlying going on that way.

Several advisors commented on using AP advising with students in the Messina program. Messina is the university's living learning program for first year students in which instructors both teach and advise small cohorts of students (n = 16; SLHS advisors outside of Messina typically advise anywhere from 15 to 30 students). The program includes funding and support for enrichment activities such as local outings, meals, and other opportunities to develop relationships with one another. While the intent is to provide a close and supportive environment, one advisor observed that Messina students may feel particularly uncomfortable if they are less successful in class because they have

relationships with their advisors (who are also their instructors) inside and outside of the classroom.

> What I do find sometimes that they, if they get to know me personally, that then if they're not doing well with something in my class that they feel that they may feel, I don't know the right word, it's almost like ashamed. You know what I mean? Like there's this different kind of thing that comes about because I think they feel like they've disappointed us or something. And I found that with the Messina stuff, so they're not doing well, then suddenly that interaction becomes, not for my part but on theirs, becomes a little bit different because I think they're worried.

Another advisor commented on the benefits of relationship building within Messina when she said the following:

> I do think all of this is easier with the Messina format, because you know I see them a lot. You know I see them outside of class and even Sunday we went to dinner and then we went to see the lights and even like walking down the street, you know in Hamden, that's when I have probably my best conversations. Yeah. You know that that more spontaneous time that I see them outside of the office, it's the best time.

Participation in Messina seems to bring opportunities and challenges as faculty advise and instruct first-year students in the context of a robust living and learning program. When students move out of Messina, they are assigned core a core advisor who remains with them from sophomore year through graduation.

The core advisor is from the student's major and may or may not teach the student. Conversely, many faculty members teach students for whom they do not serve as advisors. One participant commented on using AP advising with students outside of formal advising relationships:

> And I think as advisors, we are not just advisors to our advisees per se, right? But to everyone in the department who is in need. So you may have a student who you have connected with as an instructor, as a student instructor relationship, or as one working with you, you know as your assistant or something, and you have, built that relationship. I think that these strategies are not just, should not be just be confined to the advisor-advisee relationship, but to all students who are in need and who need that kind of connection.

Another participant shared the story of a student in her class (not an advisee) whose family was involved in a traumatic event. In addition to close collaboration with campus support services to make sure the student could continue in the course, the instructor was intentional about reaching out to connect with the student while she was at home recovering, and she invited the students' classmates to participate as well. AP advising may have helped the instructor to feel an extended role beyond the classroom.

> But I thought, you know, she's not been back to campus, so I got a card, and everybody in class signed it. Some of them know her, some of them know what was going on, others just know that she wasn't here, but we, I got a card, everybody in class signed it. We miss you, we hope everything is okay. I sent it to her home. And I got this very heartfelt email back from her about how much she appreciated that I took the time to do that. And so, I think I made a really good

> connection there and she's not my advisee, but I think just recognizing that this was a serious issue. And that not only did I take the time, but I also asked all her classmates to sign this card and then send it to her, I think she really appreciated that.

The advisors' accounts are testaments to their dedication to all of the students in the SLHS department and they echo the Jesuit mission of educating the whole student (Loyola University Maryland, n.d.). SLHS advisors put the mission into action as they employ AP advising, and one advisor suggested that SLHS faculty are particularly well-suited for this type of work:

> I think the university is trying to move in this direction, but I also recognize as a department we're unique. Kind of who we are as individuals, you know, I don't know if the, and I don't want to stereotype, but I don't know if the natural sciences or the statistics people would have the same type of interaction with students. Everyone's different, you know, so it'll work, it'll work to varying degrees.

SLHS advisors may be leaders in the university's effort to move away from a prescriptive advising model and toward a more holistic approach as the participants in this study showed interest and dedication to AP advising.

In the contexts of courses and advising, connecting with students for the purpose of truly getting to know them goes beyond the provision of information and casual checking-in that advisors described in the pretest focus groups. Rather, the posttest experiences of using AP advising as both advisors and course instructors demonstrate intentionality and adherence to the ideals and practices of AP advising. Participants

made concrete changes to the sequence and content of their advising sessions as they now *start with the person* and they generalized the concepts to classroom interactions as well, demonstrating *AP advising in teaching*. AP advising in teaching was an unanticipated positive outcome of the intervention program that has the potential to increase the reach of AP advising to benefit even more students as advising and teaching blend in the classroom.

Role Changes

Participants were asked about their perceived roles as advisors on the questionnaire and in focus groups. Similar to the research question about preparedness to identify and refer at-risk students, questionnaire responses provided objective data with informative conclusions, and were strengthened through triangulation with qualitative insights that provide thick description and relatable examples to contextualize advisors' experiences and responses. Codes from the data included *academic, career, life connections*, *provision of information*, *knowing students as individuals*, *referral for academic support*, *class year differences,* and *meeting students where they are* converged into two themes that emerged from the quantitative and qualitative data strands: *start with the person* and *cura personalis: care for the whole person*.

Questionnaire results. Quantitatively, advisors' perceived role changes were measured with questions from the Inventory of Academic Advising Functions – Faculty (Allen & Smith, 2008). Participants considered 12 advising functions divided into the following categories: integration, referral, information, individuation, and shared responsibility. Each of the 12 functions were rated on scales of advisors' perceived importance for students to receive the advising function (six-point Likert scale ranging

from not important to very important), advisors' responsibility to provide students with the advising function (six-point Likert scale ranging from strong disagree to strongly agree), and advisors' satisfaction with the advising they provide for the function (six-point Likert scale ranging from not satisfied to very satisfied). Results are depicted in Table 5.2.

Table 5.2

Importance Scale: Academic Advising Functions – Faculty results

Advising Function	Pretest Means (SD)	Posttest Means (SD)
Integration		
Overall Connect	6.00 (0)	5.83 (.408)
Major Connect	5.83 (.408)	5.83 (.408)
Gen Ed Connect	5.50 (.548)	5.83 (.408)
Degree Connect	5.67 (.516)	5.50 (.548)
Out-of-Class Connect	5.00 (.894)	5.33 (1.211)
Referral		
Referral Academic	5.83 (.408)	6.00 (0)
Referral Nonacademic	5.17 (1.329)	6.00 (0)
Information		
How Things Work	5.33 (.816)	5.83 (.408)
Accurate Information	6.00 (0)	6.00 (0)
Individuation		
Skills Abilities Interests	5.33 (.516)	5.67 (.516)
Know as Individual	5.33 (.816)	6.00 (0)
Shared Responsibility		
Shared Responsibility	5.83 (.408)	6.00(0)

The means for all pretest and posttest responses to questions of importance were at or above five on a six-point Likert scale, suggesting advisors believe that integration,

referral, information, individuation, and shared responsibility are all important for students to receive from advisors. Pretest and posttest means for "advising that gives undergraduate students accurate information about degree requirements" were 6.0, illustrating that relative to the other options, the provision of degree information is the most important to SLHS advisors. Advisors valued all five areas highly at the beginning of the study, making it difficult to demonstrate change from pretest to posttest. This finding is consistent with work by Allen and Smith (2008) that reports the most important advising function is providing accurate information. Although not statistically significant according to analysis using Wilcoxon signed rank testing, the largest change from pretest (mean 5.17) to posttest (mean 6.0) in this study was on the item "academic advising that refers undergraduate students, when they need it, to campus resources that address nonacademic problems (e.g., childcare, financial, physical, and mental health." Interestingly, AP advising emphasizes connections across students' academic and nonacademic experiences.

Similarly, descriptive statistical results also revealed advisors feel responsible for providing all of the advising functions noted on the scale, see Table 5.3.

Table 5.3

Responsibility Scale: Academic Advising Functions - Faculty

Advising Function	Pretest Means (SD)	Posttest Means (SD)
Integration		
Overall Connect	5.67 (.516)	5.83 (.408)
Major Connect	5.67 (.516)	5.67 (.516)
Gen Ed Connect	5.00 (5.48)	5.33 (.516)
Degree Connect	5.17 (.753)	5.67 (.516)
Out-of-Class Connect	4.5 (.837)	5.33 (.816)
Referral		
Referral Academic	5.83 (.408)	6.00 (0)
Referral Nonacademic	5.67 (.516)	5.67 (.516)
Information		
How Things Work	5.17 (.753)	5.50 (.548)
Accurate Information	5.83 (.408)	6.00 (0)
Individuation		
Skills Abilities Interests	5.50 (.837)	5.67 (.516)
Know as Individual	5.5 (.548)	5.83 (.408)
Shared Responsibility		
Shared Responsibility	5.50 (.837)	6.00 (0)

The mean scores on the six-point Likert scale of agreement for responsibility ranged from 5.0 to 6.0 (the mean for one item was 4.5, but one participant did not respond) for both

pretest and posttest questionnaires, and all scores remained the same or increased slightly. Consistent with the literature that suggest a variety of advising roles and functions, (Allen & Smith, 2008; Dillon & Fisher, 2000; Harborth, 2015) the SLHS advisors believe that students should receive a range of advising services, and advisors feel responsible for providing the services. However, advisors' satisfaction with how they meet students' needs across the 12 areas of advising varied.

Advisors' responses were lower for the questions about satisfaction with advising provided in the 12 areas than for importance and responsibility, although the means remained fairly high, ranging from 3.83 ("academic advising that refers undergraduate students, when they need it, to campus resources that address nonacademic problems, e.g., childcare, financial, physical, and mental health") to 5.4 ("advising that gives undergraduate students accurate information about degree requirements"). The results differ from those reported by Allen and Smith (2008), wherein satisfaction scores exceeded responsibility scores. Advisors in Allen and Smith's study felt mostly satisfied with their advising but did not feel responsible for the range of important advising services that they feel students should receive. In contrast, participants in this study do feel responsible for providing the range of services but do not feel as satisfied with their provision of the advising services. Table 5.4 depicts the results.

Table 5.4

Satisfaction Scale: Academic Advising Functions - Faculty

Advising Function	Pretest Means (SD)	Posttest Means (SD)
Integration		
Overall Connect	5.17 (.753)	5.00 (.632)
Major Connect	5.17 (.753)	5.33 (.516)
Gen Ed Connect	4.67 (.816)	4.83 (.753)
Degree Connect	4.5 (1.643)	4.83 (.408)
Out-of-Class Connect	4.33 (1.211)	4.33 (.816)
Referral		
Referral Academic	5.17 (.753)	4.83 (.408)
Referral Nonacademic	3.83 (2.137)	4.33 (1.033)
Information		
How Things Work	4.67 (.816)	4.83 (.753)
Accurate Information	5.40 (.548)	5.50 (.548)
Individuation		
Skills Abilities Interests	5.00 (.632)	5.17 (.753)
Know as Individual	5.00 (.632)	4.67 (.816)
Shared Responsibility		
Shared Responsibility	4.83 (.408)	4.67 (.516)

Importantly, pretest frequency data reveal several advisors selected scores of 1 (not satisfied) or 2 (minimally satisfied) for advising that assists students with deciding what

kind of degree to pursue, choosing out-of-class activities that connect academic, career, and life goals, or referring students to campus resources that address nonacademic problems. None of the advisors selected scores of 1 or 2 on the posttest questionnaire, suggesting they feel more satisfied with their advising beyond course selection, including nonacademic referrals and intentional connections across academic, career, and life goals, thus contributing to the codes of *academic, career, life connection* and *provision of information*.

Pretest focus group results. Advisors' responses about their perceived role in the focus groups ranged from feeling like a guidance counselor to helping with course selection and offering career advice. Several advisors remarked that their roles depended on the students' class years and respective levels of engagement, developing the basis of the *class year differences* and contributing to the *provision of information* code. For example, one participant said:

> I think it's certainly student dependent, what my role is. Some students that are just naturally, either they hold back or they're introverted. And so, you know, some students, it tends to be very transactional. And it really just deals with the courses and the coursework, and it's kind of perfunctory. And then other students, and this is where I think Loyola is really trying to change their model. Um, it's really more, more personal or appreciative. As you know, Brianne, so what, for example, one of the initiatives, what we're doing now with core advising, is we don't wait until they sign up for classes. So I am meeting with all of my Messina students next week. And there is a list of questions. And it's kind of questions about learning style and comfort in transition, and kind of asking them about

> clubs and strengths and weaknesses. So it goes much broader than the coursework, even when I tried to kind of match up personal interests with more, you know, I'm going to say career and life goals. Because it's more, it's more than just the career and I believe the education at Loyola is more than career.

The advisor's emphasis on the word "more" reflects another Jesuit mission of the university, the concept of *magis*, or a deep belief in more in terms of mind, body, spirit, and mission (Loyola University Maryland, n.d.). The advisor's assertion that a Loyola education extends beyond career preparation is consistent with the mission and suggests a praxis element to advising and further supports the *academic, career, life connections* code.

Several advisors mentioned the class year of students in relation to advising roles. Sessions with underclassmen tend to focus on course selection, while juniors and seniors are more concerned about careers and graduate school admission. One advisor shared:

> And I think that the older students, so when you start seeing them junior and senior year, it starts to be a lot more like mentoring for career goals and aspirations, and desires to either get employment or graduate school. And so, I think, as they progress through maybe a continuum, it changes from helping them transition to the school to help them to plan not just the classes, but career goals.

Another advisor echoed the *class year differences* and also reflected on the impact of her own experience as an advisor related to her perceived roles. She said:

> For me, it's primarily been transactional, but not, but I think the variable that mattered was their comfort level with me. So senior year, to the students that for whom I was the first time and advisor, their senior year, I felt like they interacted

> with me more comfortably, and so or more, they shared more in terms of in terms of their personal goals, etc. When I had them as sophomores and juniors, I was brand new [to Loyola]. And so I don't think I perhaps gave off the signals that said, you know, I really want to know more about you. I asked the question, I asked specific questions, and they answered the questions, but it wasn't real sharing. But I think by the time they got to be seniors, a few of them at least, felt more comfortable and so then we're giving me more information and were less reserved.

A different advisor followed-up by saying that she felt a connection with her advisees more recently because her own children were in college, so she could relate to the students and their concerns. She remarked, "this last group that I've had kids in college, so I know, you know, what is what they're going through, and I know as a parent, so I don't know if that helps mine open up more."

Finally, the same advisor who mentioned asking appreciative-style questions (per the university protocol, separate from AP advising), raised the point of feeling unprepared to manage conversations that might arise when advisors deviate from a prescriptive model:

> I think it's new for all of us to kind of try to relate on that personal level. So, you know, sometimes I'm like, well, how qualified am I, really, if I say, what else do you want me to know? And they tell me something? And I'm like, Oh, God, now what, like, what do I do with this information? So, it's kind of, you know, a comfort level and knowing when to refer and what the resources are, and what our what our role is and what the boundaries are. You know, I think there's a

> boundary issue too, you know, there's certainly other people more qualified to do counseling than I am.

Discussion of campus resources to support students becomes relevant at this point as SLHS advisors are not mental health counselors, but they can learn to identity and refer distressed students, as noted previously. That said, it should be acknowledged that advising beyond long-established roles and routines , including *provision of information* and *referral for academic support*, may be challenging and uncomfortable for some advisors.

All of the advisors discussed course selection as part of their roles, and many also mentioned checking-in. Check-ins are informal chats and discussions that occur within advising sessions and also outside of sessions, such as in the hallway, on the way to class, and around the department; check-ins allow advisors to *meet students where they are*. For example, one advisor said:

> But as far as meetings go, you know, I usually start off asking, you know, how are you doing? How are things going? Is there anything I can help you with? And then let's talk about courses. So it's not just about courses. I think for me, I like to, you know, make sure that everything is going on okay with him. And then we do courses.

Another advisor tended to do her checking-in after the transactional part of advising was over. She said:

> And then in subsequent sessions, we talked about courses first, and then afterwards I do the 'and so how are things going? And are you thinking about being, you know, your roommate situation still going ok to work out that problem,

> etc, etc,' and I hope that allows me to get some, you know, more personal feedback, which I hope would allow me to get a sense of whether or not they're doing in okay general. So that's my goal anyway.

Similarly, another advisor commented on checking in outside of regular advising sessions: "So you know, reaching out at kind of non-prime times like around registration. Stopping when you see them and have a conversation ask them how their summer was, you know those kinds of things."

Posttest focus group results. Posttest focus groups revealed participants' expanded perceptions of their roles as advisors. Several advisors mentioned an increased focus on *knowing students as individuals* before moving into course selection. Others commented on advisors' obligations to facilitate supportive connections for students, such as by referring a student to an SLHS colleague who may share similar career interests, reflecting the *academic, career, life connections* code. Engagement with students regarding career interests is consistent with mentoring literature, such as McKinsey's (2016) work that describes *mentoring in, mentoring through,* and *mentoring onward*, or bridging students' undergraduate experiences with their future plans. Similarly, Nora and Crisp (2007) found that setting educational and career goals was one of three significant variables in students' mentoring experiences. Advisors also commented on how AP advising equipped advisors to guide students to think more broadly about careers including and beyond SLP and audiology.

With regard to increased and intentional interpersonal discussion, one participant commented:

> I do think that I'm changed, just by switching up and spending more time on the personal, I think I did have interactions that did talk about their personal experiences, but usually only if somebody appeared in a crisis. Remember, the former advisors? It was usually something, either it started with getting notified that they were getting a bad grade or started with getting notified by somebody in the department that this student of yours is not going to class or something like that. I ended up being more personal with everybody.

Another advisor commented similarly, with a focus on how her own experience at the university increased her confidence to move beyond transactional advising:

> I feel more comfortable engaging in that personal interaction. And I think it's just more of a reflection of my comfort level with, you know, being here and kind of knowing what I'm doing. Well, I wouldn't go that far, but I have a better sense of what I'm doing. I think because I'm more relaxed I'm better able to engage in these interactions beyond ok I've got to check this box, I told you what courses you need to take, etc. etc.

Whereas pretest results revealed primarily transactional advising with check-ins, consistent with a prescriptive model (Crookston, 1972/1994), posttest discussion shows that advisors seemed to shift priorities by emphasizing discussion with advisees about topics beyond course selection and registration. Students begin to have more say during these interactions, as they would during a developmental advising (McGill, 2016), appreciative advising (Bloom et al., 2008) or praxis advising (Hemwall & Trachte, 1999) meeting. Sometimes the discussions demonstrate that the student might be better suited

to work with a different SLHS advisor, even if only for informal advising and discussion. One advisor commented along similar lines when she said:

> I want to raise another issue. There are some students who it's possible for students to feel more comfortable relating to an instructor, a faculty member who is not their designated advisor. And I think we need to be open to that, because sometimes the personality clicks better with some than others.

Another participant agreed and added:

> Yeah, we all have our own interests, and sometimes they click with an interest and that's why they gravitate and that's what they want to talk to you about, you know, if I want. There might be somebody who's interested in pediatrics and, you know, and wants to talk to me about that or, you know, last year Brianne when you had Colleen who was interested in kind of in doing that, that gap year. So, I think that's kind of natural, but we have to put ourselves out there for that is what you're saying.

SLHS instructors discuss the value of working on interdisciplinary teams as professionals in schools and hospitals, and students are well-versed on the roles of various team members, such as special educators, parents, neurologists, and physical and occupational therapists. Creating an atmosphere of similar collegiality across SLHS faculty members with diverse areas of expertise who are accessible to students makes sense in the context of AP advising and also as a precursor to professional life working on teams.

Typically, nearly all students who major in SLHS prepare for graduate school and careers in SLP or audiology immediately upon graduation. The trend is changing though, and while the majority of SLHS students still do attend graduate school and pursue SLP

or audiology, faculty can no longer assume that all students will follow the same path. Advisors' roles have broadened from shepherding students through a pipeline from undergraduate to graduate studies to supporting students through individual discernment processes that may lead to different paths. Several advisors' comments reflected the need to *know students as individuals*, *meet students where they are*, and *connect academic, career, and life goals*:

> I think, you know, once upon a time, we were pretty much lockstep with the expectation that they were going to go one of two ways. And I don't think that's fair to anyone. I don't think that's fair to the students. It takes more thought, it's going to take more education on our part to kind of know what these other avenues are, but it is going to take more time.

Another advisor suggested that conversations about different paths for students with SLHS degrees should happen with students in all class years, including seniors who may feel trapped into a career that no longer seems appealing or is not realistic for them to pursue in terms of graduate admission. She found that moving beyond academics (i.e., course selection and students' grades) led to deeper relationships with students.

> I see this too in the seniors, in terms of saying kinds of things, that they don't think, that they're not set to be able to have these conversations to help them to look at other paths, to be able to go, you know, in different directions, to be able to help them to figure out the right way to move towards whatever it is they want to do next, you know, whatever it is that they're suited for to do next, as opposed to always thinking that the end thing is always going to be graduate school. I know that that's where our profession should lead, but it doesn't leave that way for

everybody, so I think to be able to have those conversations early and also late, to be able to really engage with students. I've found that I had better kinds of, I've gotten to know students better as a result, even as seniors, because of those kinds of things, I'm having those kinds of conversations and not just strictly academic, you know not strictly academic conversations.

One participant described her changed role as an advisor who helps students to think bigger. She shared her experience with a student who asked to pursue an interdisciplinary major that does not currently exist to support her desires to pursue a particular path toward a doctoral degree immediately after graduation. The advisor felt as though AP advising helped her to ask questions that gave the student the freedom to consider a different academic path that aligns with the student's personal and professional goals.

You know, and I think it helps students to think bigger. So my example is, and I'm going to be talking about this at the undergraduate curriculum committee, I had a student who really was thinking about her course, her pathway, and she came to me wanting to do an interdisciplinary major in biology and speech language pathology, and there's some hurdles before, you know, we can go ahead and do that. But you know she had really thought it through. And she's thinking of going to kind of a Master's, kind of PhD audiology type of program and she felt like this was the best path for her and this would support her moving forward, and I was kind of shocked. She had thought it all through. But I really tried to reinforce, you know her thinking with her, and followed up with her several times, and you

know I was impressed, so I think it [AP advising] allows them to think outside the box sometimes.

The participants were candid about how AP advising changed their perceived roles as advisors. The discussions illustrated a transition from prescriptive advising focused on course selection to an intentional shift toward beginning sessions with personal discussion and getting to know students and their strengths and interests, reflecting the themes of *start with the person* and *cura personalis: care for the whole person*. Advisors also felt their roles expanded to connect students with other SLHS faculty members who might be able to offer more specific guidance and insights about particular areas of clinical and research expertise. Similarly, several advisors shared stories that illustrated how AP advising provided an opportunity to allow students of all class years to think more broadly about their career options within and beyond SLP and audiology.

Triangulated results. Considered together, questionnaire and focus group results depict advisors who feel responsible for providing a range of functions to SLHS students. Advisors recognize their roles in prescriptive tasks such as course selection and preparing students for registration both on the questionnaire ("advising that gives undergraduate students accurate information about degree requirements") and in focus group discussions. This is not surprising, as Allen and Smith (2008) found that advisors perceive providing accurate information as their most important function. Advisors also shared details of their work supporting students by getting to know students and their interests, and by guiding students through career discernment, aligning with the *academic, career, life connections*, *provision of information*, and *knowing students as*

individuals codes, all of which converge into the *cura personalis: care for the whoe person* theme. AP advising was developed in response to students' desire for greater social support from faculty and the advisors attended to students' needs beyond course selection.

Intentional connection across students' *academic, career, and life goals* shifts advisors away from purely prescriptive advising and toward a more holistic model that values students' experiences and opinions (Crookston, 1972/1994). The questionnaire item with the largest change from pretest to posttest (although not statistically significant) was on the item "academic advising that refers undergraduate students, when they need it, to campus resources that address nonacademic problems (e.g., childcare, financial, physical, and mental health)." The advisors spoke extensively about their preparedness to identity and refer at-risk students to campus services during the focus groups, including how to discern a bad day from distress and the range of familiarity with campus resources. The Kognito module specifically addressed the identification and referral of at-risk students, and focus group discussion connected the module to practical examples from campus. Rein et al. (2018) found statistically significant differences in Kognito participants' preparedness to identify at-risk students. The questionnaire results in this study lacked statistical significance, but the thick description of the focus group discussion suggests the questionnaire's practical significance and triangulated results demonstrate the advisors' changes in their perceived roles.

Discussion

The focus of the AP advising intervention was on SLHS advisors as participants in the program, but it is important to remember that the intervention was developed in

response to the needs assessment results that showed stressed SLHS students need improved social support. Advisors' participation in the program, including attendance and completion of required meetings and modules and independent implementation of AP advising strategies, was ultimately intended to benefit SLHS students. The advisors never lost sight of this goal, and there was extensive conversation in the focus groups about factors that came up in the needs assessment related to sources of students' stress, such as parental influence, time management, and graduate school admission.

Overinvolved parents, often described as helicopter parents, were discussed by students in the needs assessment as they shared stories of parents who constantly ask about academic progress and summer internship opportunities. Although college students are adults, their parents still reach out to university faculty on behalf of their children, as noted by one advisor who recalled a recent interaction with a student's parent: "I got a call from a parent who wanted to know why their child didn't have honor cords. You know, I think there's a societal change. Everybody's perfect. Everybody gets, everybody should, everybody should have." She continued,

> That student never once said 'why am I not in the honor society?' That student knew. That student never applied. That student was a good student but had not participated in things in the major and that was a conscious choice and that's fine. And they had honor cords from other things, but it was this mom.

The parent may have undermined the student's intentional choices by contacting the advisor, which can complicate the natural separation-individuation process that occurs when students go away to college (Mattanah et al., 2004) and may contribute to students' stress (Odenweller et al., 2014).

More often than overinvolved parents, the advisors commented on students' stress related to time management and graduate school admission, which is also consistent with needs assessment findings reported by the students themselves. One advisor said, "I hear a lot about time management. How to juggle the stress of all the classes and all the activities they feel like they have to be in to get into graduate school." Another advisor elaborated:

> I met with the student yesterday. She's got, her major is obviously speech. She's got two minors. She's trying to go abroad. She's in a club, and she has two different jobs on campus. That's a little over the top to me.

Although first-year students are years away from graduate school, advisors remarked that even underclassmen seem consumed by the pressure related to graduate school admission:

> For right now, with the very young students. It's floors me how freshman year, first semester, they are already concerned about grad school. And I'm like, can you just try to enjoy what is right here? You don't want to say, you know, you can't blow it off, but you just want them to enjoy their experience. And one thing that surprised me too, and I don't remember this in years past, is the number of clubs they were all joining. Out of my 16 students last year, every single student was in a club. And I think two or more clubs. … So, they're pretty over committed, and just stressed, you know, at a young age, it's just kind of sad.

Advisors mentioned previously that a Loyola education is about more than a career. Our work is to educate the whole student, not just to prepare students for admission to graduate school and a career, but many students arrive with a different

perspective and it continues through their four years. One advisor commented on sophomore students' focus on gaining admission to the National Student Speech Language Hearing Sciences Honor Society (NSSLHA):

> I mean, I know I hear a lot of this stress from students. So they're all of just first semester sophomores about all these things that they have to do to be in the NSSLHA Honor Society. And they're already worried about NSSLHA Honor Society, when they're just declaring their major. So, they feel like they have, I get what you're saying, they feel like they have to have all of these activities or being part of causes that are affiliated with NSSLHA because it looks good.

The students are correct that high academic achievement and SLHS-related service are required for admission to the honor society and earning the accolade seems to preoccupy students. One advisor commented on the effects of students' stress on their learning and their overall college experiences:

> They're missing out of on, kind of having the joy of what college life can be. And sometimes it really bothers me that they can't learn for learning sake. Right? I had a student, this was a senior who was I think she took a year this year before applying [to graduate school], but she ended up getting like an A- in my class, which is great grade. And she came back and she wanted an A and she was just like 'can you like re-look at this? I really need this for graduate school.' And I'm like nope, wrong answer. This is what you earned. And this is, and then I kind of had to cut and paste from the catalog of what an A meant, and I'm like you're between here and here. So that's so that's, that's troubling.

A different advisor summed it up by saying, “They’re so hyperfocused on grad school. I agree. It's awful.” Faculty members seem acutely aware of factors related to students’ stress and they shared ample stories to support their assertions about the influence of hovering parents, time management challenges, and graduate school admission on SLHS students’ wellbeing.

However, there seemed to be a disconnect between casual conversation and advisors’ recognition of distressed students. On one hand, advisors discussed how students have changed and they seem more stressed than ever before, and on the other hand advisors reported that they have trouble recognizing when students are in distress and need help. Perhaps the question is about where the line is drawn between healthy and unhealthy stress. Advisors’ stories of overcommitted students who struggle to manage multiple minors, jobs, and nonacademic commitments, on top of maintaining high GPAs, are not unique; many students carry such heavy loads. One advisor even noted her familiarity with national trends of increased incidence of anxiety and depression when she said, “Also, I'm aware of the increase in anxiety and depression among the general population and in higher ed, too.” Perhaps because stressed SLHS students are the norm, not the exception, or because advisors have the benefit of experience, advisors may lose sight of who might benefit from clarification around what is needed for graduate admission, ways to calm parents, and extra support. However, students in all of the needs assessment focus group were clear about their desire and need for improved social support.

Implications for Practice

AP advising is one way to provide improved support for students on an individual basis. Students expressed the need to connect with SLHS faculty outside of the classroom and to be able to share their stress with faculty who understand the context of SLHS graduate school admission demands, and AP advising was designed to meet students' expressed needs. Through the process of planning, implementing, and evaluating the AP advising program, additional implications for practice were revealed. First, AP advising seemed to be successful and it would be worthwhile to continue to use the model for SLHS advising, and perhaps repeat the training for new SLHS advisors. A few advisors also suggested that the program be scaled-up by expanding out of the SLHS department and brought to the university level.

The power of appreciative inquiry and connection to mission emerged as important elements of appreciative and praxis advising, respectively, that may influence future practice. Bloom et al. (2008) suggest that appreciative advising is a revolutionary approach to advising and participants in the AP advising program discussed generalizing the approach beyond formal advising meetings and into their classes. Perhaps appreciative inquiry will become a way of being and more than a means of interact with students. Furthermore, praxis advising is grounded in connection to mission and the participants expressed a strong understanding of the connection and rationale. Alignment of AP advising to the university's mission and the current advising initiative (i.e., university-wide shift from prescriptive to developmental advising) may promote buy-in and further use of AP advising beyond the intervention itself.

Several advisors also commented on the value of taking the time to connect with colleagues to reflect on advising practices. In the context of AP advising or other departmental initiatives, protecting and prioritizing time to engage in action and reflection cycles seems to be of interest to SLHS faculty. Schon (1991) distinguishes between reflection-in-action, or thinking on one's feet and actively considering one's present situation, and reflection-on-action, a retrospective examination of past events. Advisors engaged in reflection-on-action during the AP advising focus groups, and further reflection-on-action with colleagues might promote reflection-in-action during future encounters with students. As mentioned previously, action and reflection cycles are elements of Ignatian pedagogy that align with the mission of the university.

Finally, advisors spent some time discussing the support systems and resources that are available to students on campus, such as Disability Support Services, the Counseling Center, Campus Ministry, and the Student Support & Wellness Promotion office. Perhaps SLHS faculty could consider collaborating with colleagues in the student support offices to develop additional best practices for advising and providing emotional support to SLHS students. Keeping in mind the stepped care model (Sobell & Sobell, 2000), SLHS advisors may be correct in thinking that most students do not need individual support services from licensed counselors or campus ministers. However, the stepped care model suggests that students might benefit from less intensive, more normalized support that may not have to be provided by licensed mental health professionals. There might be a way to provide broad supports to all SLHS students, while some might still need additional more specialized intervention. For example, perhaps SLHS advisors could facilitate periodic get-togethers with the intent of

supporting small groups of SLHS students. Advisors could seek guidance about how to organize and facilitate such gatherings from student wellness professionals.

The power of appreciative inquiry emerged as a

Overall, given the initial success of AP advising, continuing and growing the program seems to make sense. Growth potential exists within and beyond the SLHS department, as SLHS advisors might be ready to move further along the appreciative advising cycle with their students and would likely benefit from extended support to continue using AP advising strategies. Advisors could also engage in more regular reflection with fellow SLHS faculty members and collaborate with colleagues in student support offices across the university to develop new ways to improve social support for SLHS students. Finally, exploring the long term outcomes of AP advising on student stress would be beneficial as the program is designed to support students.

Limitations

This study had several limitations including the sample, length of the intervention, and the absence of a control group. Limitations related to the sample include a small sample size of six advisors, which limits the power of inferential statistical analysis. Additionally, all six advisors worked at the same university, potentially limiting the generalizability of the findings of the study to other contexts. The sample was purposefully limited to faculty advisors in the SLHS department at the university for the purpose of this study. All of the advisors were female certified SLPs or audiologists, with advanced degrees in human service professions. Notably, despite the small sample and limited statistical power, the triangulated results depict an evolving mindset of the

participants, suggesting a dissonance between the numerical outcomes of interest and the actual and practical significance of the study.

An additional limitation included the homogeneity of the participants. The advisors were experienced, with an average of 21.5 years as faculty members and 18 years as advisors. A larger and more diverse sample might have improved generalizability (Lochmiller & Lester, 2017). The qualitative strand of the study is potentially limited due to the specific and contextual nature of the university and program. However, Guba (1981) suggests that thick description of the research context may improve the transferability of qualitative findings and the context was described thoroughly in this work.

The duration of the intervention was limited to one academic semester, and advisors might have moved through the Discover stage and into the Dream and Design stages of the appreciative inquiry cycle, leading to more robust data and results, with more time. Not being able to measure long term outcomes is a limitation; however, logistical constraints limited the intervention time to one semester. Finally, the absence of a control group limits the ability to attribute the results of AP advising to the intervention program (Shadish et al., 2002).

Conclusion

This study examined the use of AP advising, a hybrid style intervention program, with six undergraduate SLHS advisors. The advisors participated in face-to-face launch and debrief meetings, completed an online Kognito module about identifying and referring at-risk students, took pretest and posttest surveys, and participated in pretest and posttest focus group sessions. A mixed methods evaluation indicated that the participants

carried out the program with fidelity, and proximal outcomes included qualitative evidence of changes in participants' knowledge and skills related to AP advising. Quantitative evidence had limited results of statistical significance, but triangulation with qualitative data suggests the findings had practical significance.

National studies (Liu et al., 2018) and data from the needs assessment in this study demonstrate that current undergraduate students are stressed, and they need improved support. Social support may serve as a buffer for students' stress (Cohen & Wills, 1985; Watkins & Hill, 2018) and a variety of people can provide social support, such as peers, family members, faculty members, and advisors (Allgower et al., 2001; Lee & Goldstein, 2016). AP advising is a strengths-based, mission-focused approach to advising students that helped SLHS advisors to shift their approaches from prescriptive advising with a focus on course selection, to a holistic and student-focused approach. One advisor wisely and simply said, "Don't start with the academics. Start with the person."

Future research needs to be conducted to examine AP advising over longer periods of time, AP advising from students' perspectives, and AP advising in a graduate school context. This study provided insights into undergraduate SLHS advisors' experiences with AP advising, and research is needed on how students perceive the program. Additionally, AP advising might be beneficial to faculty who advise, teach, and support graduate students in SLP and audiology.

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Appendix A

Needs Assessment Undergraduate SLHS Stress Survey

Answer the next 10 questions fairly quickly. Don't try to count the number of times you felt a particular way, but select the most reasonable estimate.
(0) Never, (1) Almost never, (2) Sometimes, (3) Fairly often, (4) Very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and "stressed"?
4. In the last month, how often have you dealt successfully with irritating life hassles?
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
7. In the last month, how often have you felt that things were going your way?
8. In the last month, how often have you found that you could not cope with all the things that you had to do?
9. In the last month, how often have you been able to control irritations in your life?
10. In the last month, how often have you felt that you were on top of things?

The next 19 questions ask you to think about your experiences of stress.
(0) Never, (2) Seldom, (3) Occasionally, (4) Often, (5) Most of the time

I experience pressure:
11. Due to academic deadlines

12. Due to financial deadlines

13. Due to a self-imposed overload (attempting too many things at one time)

14. Due to overload caused by the expectations of others

As a person:

15. I have a tendency to procrastinate (put things off that have to be done)

16. I feel I must find a perfect solution to the problems I undertake

17. I worry about taking tests

When under stressful situations, I:

18. Cry

19. Abuse others (verbally and/or physically)

20. Abuse self (used alcohol)

21. Abuse self (used drugs)

22. Smoke excessively

23. Lose sleep

24. Am irritable towards others

25. Change my eating habits

26. Think about suicide

27. Separated myself from others

With reference to stressful situations, I think about…

28. How stressful the situations are (while I'm feeling stressed)

29. Whether the strategies I use are effective (while I'm feeling stressed)

Think about the next 6 questions in relation to one course for your major (not a core course) that you are currently taking:

7 – very true of me, 6 – true of me, 5 – somewhat true of me, 4 – neutral, 3 – somewhat untrue of me, 2 – untrue of me, 1 – very untrue of me

30. I'm confident I will receive an excellent grade in this course.
31. I'm confident I can understand the most basic material taught by the instructor in this course.
32. I'm confident I can understand the most complex material taught by the instructor in this course.
33. I'm confident I can do an excellent job on the assignments in this course.
34. I'm confident I can do an excellent job on the tests in this course
35. I'm confident I can master the skills being taught in this class.

Demographic Questions

36. What is your class year?

    2018, 2019, 2020, 2021

37. What is your current cumulative GPA (major and core courses combined)?

    2.0-2.5, 2.6-3.0, 3.1-3.4, 3.5-4.0

38. What is your intended career path?

    Speech-Language Pathology, Audiology, not sure

39. How is your Loyola education financed? Select all that apply.

    Me, Parents, Scholarships, Loans, Grants, Other

40. Think about your response to the last question and rank the following in order of amount of contribution to your Loyola education (highest contributor 1, next highest contributor 2, etc.):

    Me, Parents, Scholarships, Loans, Grants, Other

41. How will your graduate education be paid? Select all that apply.

    Me, Parents, Loans, Scholarships, Grants, Not sure yet

42. Financial concerns about my education cause stress for me.

    5 – Strongly agree, 4 – agree, 3 – neither agree nor disagree, 2 – disagree, 1 – strongly disagree

43. How often do you think about getting into graduate school?

5 – A great deal (more than once a day), 4 – a moderate amount (once daily), 3 – occasionally (weekly), 2 – rarely (once monthly), 1 – never

44. I am confident that I will get into graduate school.

5 – Strongly agree, 4 – agree, 3 – neither agree nor disagree, 2 – disagree, 1 – strongly disagree

45. Getting into graduate school is stressful for me.

5 – Strongly agree, 4 – agree, 3 – neither agree nor disagree, 2 – disagree, 1 – strongly disagree

Appendix B

Needs Assessment Focus Group Question Guide

1. What kinds of things cause stress in your life these days?
2. What happens when you are stressed?
    a. How does it make you feel?
    b. How would other people know if you are stressed?
3. Describe some strategies for easing stress that have been effective. Describe some strategies for easing stress that have been less effective.
4. What do you think about seeking help for your own stress?
5. What help is available from the university?
6. Has anyone used any of these services? What was your experience?
7. Where else do you look for help?
8. Can you think of any other support the university could offer to help reduce stress? How would it help reduce your stress?
9. Do you find being an undergraduate student at Loyola stressful? How is that stress different from others stressors you have experienced in your life?
10. What aspects of your academic work lead you to feel stressed?
    a. What have you found that helps to ease this type of stress?
11. What aspects of the graduate school process are stressful to you?
    a. What have you found that helps to ease this type of stress?

Appendix C

Needs Assessment Informed Consent Form

Loyola University Maryland

Title of Study:	Stress in Undergraduate Students Studying Speech-Language-Hearing Sciences
Primary Investigator:	Brianne Higgins Roos

THIS PROTOCOL HAS BEEN REVIEWED AND APPROVED BY THE LOYOLA UNIVERSITY MARYLAND INSTITUTIONAL REVIEW BOARD.

Purpose and Procedures:

This study is being carried out as part of dissertation research about stress in undergraduate students studying speech-language-hearing sciences (SLHS). The purpose of the study is to understand SLHS students' experience of stress.

Participants will be asked to complete an electronic survey that will take approximately 10 minutes to complete, and may participate in focus groups, which will last 45 minutes. The total time commitment for students who participate in both the survey and a focus group will be about one hour. Survey data will be collected electronically by Qualtrics, which is the survey program used at Loyola University Maryland. Data will be anonymous and will not be identifiable to individual students. Focus groups are small group discussions about students' stress that will be facilitated by Janet Schreck (Johns Hopkins University employee and doctoral advisor to Brianne Roos) and will take place in the Department of Speech-Language-Hearing Sciences. Focus groups will be audio recorded, and the recordings will only be available to Janet Schreck and Brianne Roos. Recordings will be maintained on password protected devices that are only accessible to Brianne Roos. No names will be used when the data is analyzed, and students will not be individually identified in written reports of the focus groups.

Study participants include undergraduate students at Loyola University Maryland who are SLHS majors.

The purpose of the study is to understand SLHS students' experience of stress.

Risks:

The risks associated with participation in this study are no greater than those encountered in daily life or during the performance of routine psychological examinations or tests.

Benefits:

There are no immediate benefits of participating in the study. However, participation will contribute to a greater understanding of SLHS students' stress. This knowledge will

help to develop an informed stress management intervention that will address the factors learned in this study.

Confidentiality/Anonymity:

All survey data will be collected through anonymous surveys, and responses will not be traced to the individual student participants. Only Brianne Roos will have access to the anonymous survey responses, and they will be deleted after three years. Focus groups will meet in person, but students' responses will not be written or published with their names. Audio recordings of the focus groups will be kept confidential, and only Brianne Ros will have access to the records, which will be kept for three years following the conclusion of the study, and then deleted.

Under these conditions, any information obtained from this research may be used in any way thought best by the investigators for publication or education purposes, provided that you are in no way identified and your name is not used.

Questions:

Please take as long as you need to review this information before deciding if you would like to participate. If you have questions or concerns about your participation in this study, you should first contact the principal investigator Brianne Roos at bhiggins@loyola.edu; 410-617-2630. In addition, you may contact Loyola's Institutional Review Board (IRB) if you have any questions about your rights as a participant at 410-617-2188 or irb@loyola.edu.

Voluntary Participation and Right to Withdraw:

Your participation in this study is entirely voluntary. If you decide not to participate, there are no penalties and your status in the SLHS program will not be impacted. If you choose to participate in the study, you may withdraw from the study at any time. A decision not to participate or to withdraw from the study will not result in any negative consequences for you. If you want to withdraw from the survey, please close the browser window. If you want to withdraw from the focus group, please do not attend or feel free to leave once the group has begun.

Future Research Studies:

Information collected as part of this research study will not be used or distributed for future research studies.

Statement of Consent:

I have read this form and am voluntarily agreeing to participate in this study. I have been allowed to ask the questions I have and my questions have been answered to my satisfaction. I have read this consent form and agree to volunteer as a research subject in this study with the understanding that I may withdraw at any time. I may print a copy of this consent form for my records before clicking "accept."

Please select your choice below. Clicking on the "Agree" button indicates that

- You have read and understand the above information
- You voluntarily agree to participate
- You are 18 years of age or older

Appendix D

AP Advising Resources – Handout for Advisors

AP Advising

	Features	Strategies & Questions
Disarm	Establish and maintain rapport	Inviting office, eye contact, call students by name, limit distractions -How is your day going? -Do you have a busy day today? -Update on progress from last meeting
Discover	*Appreciative:* Learn student's story to identify strengths, interests, and skills; *Praxis:* Action and reflection, connection to Loyola's mission Open-ended, positive questions about best experiences, overcome challenges, course connections,	-Tell me about a time that you faced a challenge you didn't think you could overcome, but then you did. How did you do it? What lessons did the experience teach you? -What were you doing the last time you lost track of time? -Tell me about a time you positively impacted another person's life. How do you see yourself fulfilling Loyola's mission of making you a person for others? -Who are your role models? Why? What about them do you hope to emulate?
Dream	Shift from focus on past and present to look forward to the future; learn about student's vision for the future	Preface questions with suggestion to think big and without constraint of parents, education, and circumstances. -When you were little, people asked what you wanted to be when you grew up. What did you say? What is your answer to that question now? -What is your wildest dream for your future career? -When you graduate from Loyola, what do you think your best memories will be? What skills will you have then that you will use in your career and life?
Design	Co-create a plan to achieve student's aspirations from Dream stage (e.g., courses, activities, relationships)	Limit professional jargon, refer to outside resources -What do you want to see on your ideal resume? -Based on the dreams we talked about, what should you be able to demonstrate upon graduation? -What courses and activities would benefit you? -Where can you find resources and experiences? -How will you measure success?
Deliver	Execution of plan from Design stage	Check students' progress by providing encouragement, instilling confidence, and expecting roadblocks

		-Remind students there is more than one path -End conversations positively -Of everything we discussed today, what are you looking most forward to doing? -What will you do if you run into roadblocks? -Do you have any questions for me? -Was anything that we discussed today unclear?
Don't settle	Ongoing accountability for Deliver stage by supporting and challenging students	Multiple meetings with student, demonstrate successes during Deliver stage, perpetuate rapport and trust, facilitate the cycle again by working with student to raise the bar

Appendix E

Inventory of Academic Advising Functions – Faculty

Academic Advising Functions	**Importance** How important is it for undergraduate students to get this kind of advising?	**Responsibility** It is part of my responsibility to provide students with this kind of advising.	**Satisfaction** How satisfied are you with the advising you provide in this area?
1)Academic advising that helps undergraduate students connect their academic, career, and life goals	1. Not important 2. – 3. – 4. – 5. – 6. Very important	1. Strongly disagree 2. – 3. – 4. – 5. – 6. Strongly agree	1. Not satisfied 2. – 3. – 4. – 5. – 6. Very satisfied
2)Academic advising that helps undergraduate students choose among courses in the major that connect their academic, career, and life goals			
3)Academic advising that helps undergraduate students choose among the various general education options (e.g., choice of capstone, cluster, courses within cluster) that connect their academic, career, and life goals			
4)Academic advising that assists undergraduate students with deciding what kind of degree to pursue (Bachelor of Science, Bachelor of Arts, Bachelor of Music) in order to connect their academic, career, and life goals			
5)Academic advising that assists undergraduate students with choosing out-of-class activities (e.g., part-time or summer employment, internships or practicum, participation in clubs or			

organizations) that connect their academic, career, and life goals			
6)Academic advising that refers undergraduate students, when they need it, to campus resources that address academic problems (e.g., math or science tutoring, writing, disability accommodation, testing anxiety)			
7)Academic advising that refers undergraduate students, when they need it, to campus resources that address nonacademic problems (e.g., childcare, financial, physical and mental health)			
8)Advising that assists undergraduate students with understanding how things work at this university (understanding timelines, policies, and procedures with regard to registration, financial aid, grading, graduation, petition and appeals, etc.)			
9)Advising that gives undergraduate students accurate information about degree requirements			
10)Advising that takes into account undergraduate students' skills, abilities, and interests in helping them choose courses			
11)Advising that includes knowing the student as an individual			
12)Advising that encourages undergraduate students to assume responsibility for their			

education by helping them develop planning, problem-solving, and decision-making skills			

Please indicate the five advising functions you address most often in your sessions:

Please rank your top 5 most important advising functions:

Appendix F

Gatekeeper Behavior Scale

Subscale	Number	Item	Response Scale
Preparedness *How would you rate your preparedness to*:			
	Prep 1	Recognize when a student's behavior is a sign of psychological distress	1 = Very low 2 = Low
	Prep 2	Recognize when a student's physical appearance is a sign of psychological distress	3 = Medium 4 = High 5 = Very High
	Prep 3	Discuss with a student your concern about the signs of psychological distress they are exhibiting	
	Prep 4	Motivate students exhibiting signs of psychological stress to seek help	
	Prep 5	Recommend mental health support services (such as the counseling center) to a student exhibiting signs of psychological distress	
Likelihood *How likely are you to*:			
	Like 6	Discuss your concerns with a student exhibiting signs of psychological distress	1 = Very unlikely 2 = Unlikely
	Like 7	Recommend mental health/support services (such as the counseling center) to a student exhibiting signs of psychological distress	3 = Likely 4 = Very likely
Self-Efficacy *Please rate how much you agree/disagree with the following questions*:			
	Eff 8	I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress	1 = Strongly disagree 2 = Disagree 3 = Agree
	Eff 9	I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress	4 = Strongly agree
	Eff 10	I feel confident that I know where to refer a student for mental health support	
	Eff 11	I feel confident in my ability to help a suicidal student seek help	

Appendix G

Original Survey Questions

1. How long have you been a faculty member at any institution (including Loyola)?
   ___ years
2. How long have you been a faculty member at Loyola?
   _____ years
3. How long have you been an advisor at any institution (including Loyola)?
   _____ years
4. How long have you been a major advisor at Loyola?
   _____ years

5. Have you completed the Kognito At-Risk for Faculty & Staff module within the last year?
   a. Yes
   b. No

6. How many advising training meetings have you attended in the past year?
   a. 0
   b. 1
   c. 2
   d. 3
   e. 4+

Appendix H

Intervention Semi-Structured Interview Guide

What were participants' experiences of the AP advising program and implementation?	Posttest: -What was your experience of the quality of the launch meeting? -What was your experience of the quality of the supplemental AP advising content? -What factors do you feel facilitated your ability to implement AP advising with your students? -What barriers did you experience in implementing AP advising? -How did you feel about the hybrid approach, with our face-to-face launch meeting, Kognito module, and follow-up materials provided online? Can you tell me why you feel this way? -To what extent did you engage with the follow-up materials that were sent by email? -To what extent were you engaged in implementing AP advising with students? In what ways did it differ from the training you received? -What was your process for using AP advising?
To what extent did AP advising change advisors' knowledge of appreciative and praxis advising strategies?	Pretest: -Are you familiar with appreciative or praxis advising strategies? If so, please share your knowledge with us. Posttest: -How did this program change your knowledge about appreciative and praxis advising strategies? -Did you feel like you knew enough about appreciative and praxis advising to implement the strategies? -What do you know now about appreciative and praxis advising strategies that you did not know prior to the training and implementation of AP advising? -How did you apply this knowledge in your advising meetings with students?
To what extent did AP advising change advisors' perceived preparedness to identify and refer at-risk students?	Pretest: -How prepared do you feel to identify at-risk students? -How prepared to you feel to refer at-risk students? -Do you identify and refer at-risk students? Posttest: -How prepared do you feel to identify at-risk students? -How prepared to you feel to refer at-risk students? -Did you identify and/or refer any at-risk students this semester? If so, do you think you would have done so last semester? -What are some new tools or skills that make you feel prepared?
To what extent did advisors' use of AP advising strategies change as a result of the AP advising program?	Pretest: -Do you use any particular advising strategies or approaches in your meetings with students? -Do you use appreciative and praxis advising strategies in your meetings with students? Posttest: -How did you use the appreciative advising cycle (i.e., Disarm, Discover, and Dream) in your advising meetings this semester? -Did you think ahead about using AP advising strategies? -Did you find any of the steps easier to implement than others? Why? -How did you infuse praxis questions into your advising sessions? -How did AP advising align with your previous approach to advising?

To what extent did advisors' perceptions of their roles change after AP advising?	Pretest: -What are your roles as an advisor? Posttest: -What are your roles as an advisor? To what extent have your perceptions of your role as an advisor changed after the program? -How do you feel about moving beyond a prescriptive role by emphasizing student development and relationships as opposed to course selection and registration?

Appendix I

AP Advising Participant Recruitment Emails

Initial recruitment email:

Dear undergraduate SLHS advisors,
As many of you know, I am pursuing a doctorate at Johns Hopkins and my dissertation is exploring stress in undergraduate students studying SLHS. As part of my dissertation research, I will conduct a study this fall to investigate the impact of appreciative and praxis advising strategies on our work with undergraduate students. I hope you will consider participating in the study. Participation includes an initial electronic survey (15 minutes) and focus group (45 minutes), attendance at a launch meeting (75 minutes), infusion of new advising strategies during regularly scheduled advising meetings, a posttest electronic survey (15 minutes), posttest focus group (45 minutes), and attendance at a debrief meeting at the conclusion of the fall 2019 semester (60 minutes). You will also receive biweekly emails with multimedia content about appreciative and praxis approaches. Participation in the study will help me to understand the effects of appreciative and praxis advising strategies on your perceptions of advisors' knowledge and roles as we support our students.

If you are interested in participating, please click here.

Thank you,
Brianne

Follow-up recruitment email, sent one week following the initial email:

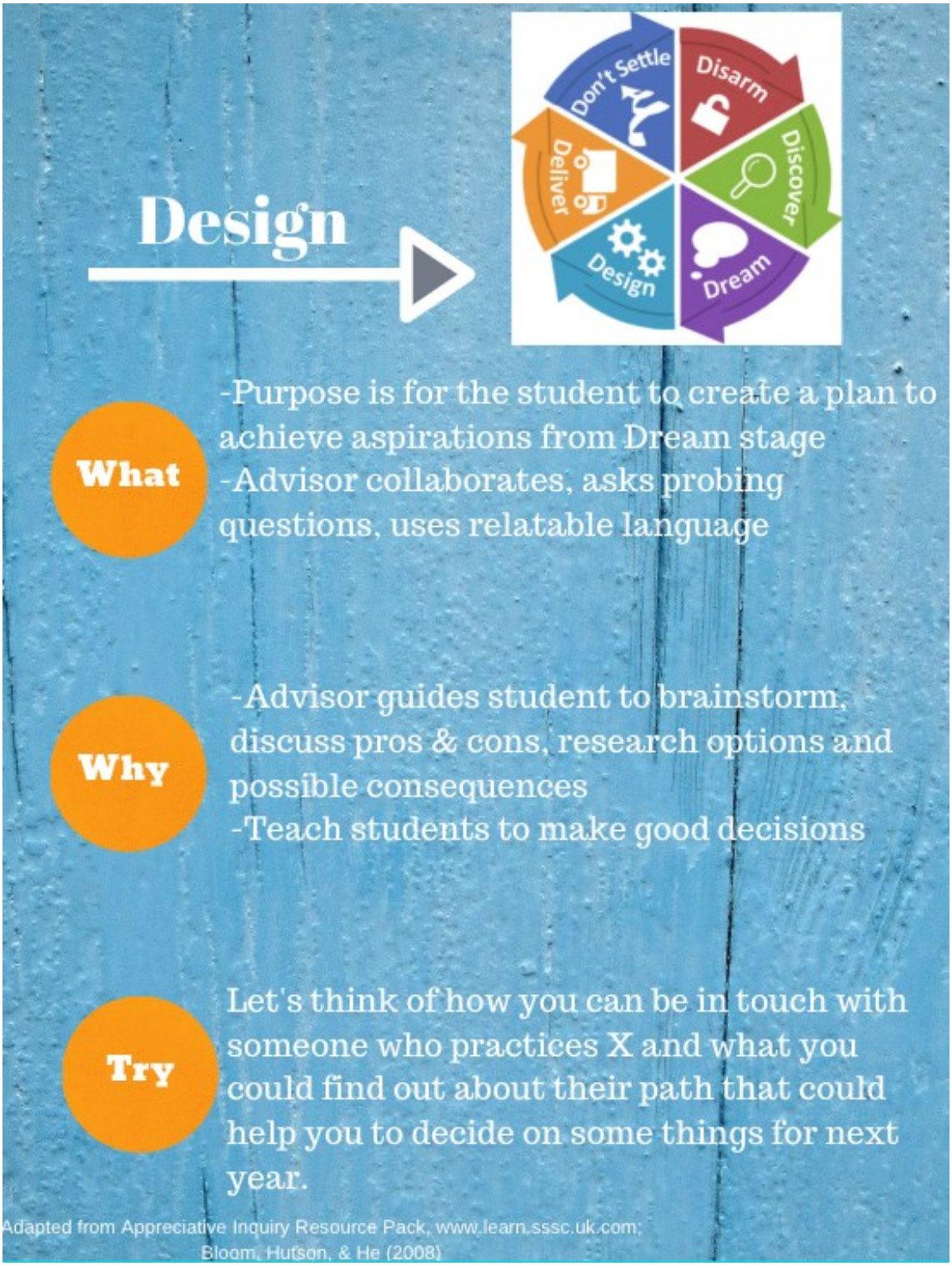
Dear undergraduate SLHS advisors,
Just a reminder that as part of my dissertation research, I will conduct a study this fall to investigate the impact of appreciative and praxis advising strategies on our work with undergraduate students. I hope you will consider participating in the study. Participation includes an initial electronic survey (15 minutes) and focus group (45 minutes), attendance at a launch meeting (75 minutes), infusion of new advising strategies during regularly scheduled advising meetings, a posttest electronic survey (15 minutes), posttest focus group (45 minutes), and attendance at a debrief meeting at the conclusion of the fall 2019 semester (60 minutes). You will also receive biweekly emails with multimedia content about appreciative and praxis approaches. Participation in the study will help me to understand the effects of appreciative and praxis advising strategies on your perceptions of advisors' knowledge and roles as we support our students.

If you are interested in participating, please click here.

Thank you,
Brianne

Appendix J

Electronic AP Advising Resources




Don't Settle
Disarm
Deliver
Discover
Design
Dream
Discover
What
-Look for strengths, not deficits
-Ask thoughtful questions genuinely
-Seek the stories
-Connect core & major courses to life
Why
-Purpose is to help students to identify examples of their true strengths and interests
-You are inquiring deeply, not gathering data
-Encourage students to relive experiences rather than what they think you want to hear
-Model action & reflection, connect to mission
Try
Tell me about a time when you faced a challenge that you didn't think you could overcome, but then you did. How did you do it? What lessons did the experience teach you?
Adapted from Appreciative Inquiry Resource Pack, www.learn.sssc.uk.com


Don't Settle
Disarm
Discover
Deliver
Design
Dream
Dream
What
-Constraints aside, imagine the best
-Focus on the future
-Envision success
Why
-Purpose is to build a dream based on students' strengths
-Motivate students and help them to define success
-Look for congruence across Discover and Dream conversations
Try
Think big! What would your ideal resume look like? What do you dream of doing, even if it seems impossible right now?
Adapted from Appreciative Inquiry Resource Pack, www.learn.sssc.uk.com

Appendix K

Intervention Informed Consent Form

JOHNS HOPKINS UNIVERSITY HOMEWOOD INSTITUTIONAL REVIEW BOARD (HIRB) RESEARCH PARTICIPANT INFORMED CONSENT FORM

Study Title: Stress in Undergraduate Students Studying Speech-Language-Hearing Sciences: An Advising Intervention
Application No.: HIRB00009483
Principal Investigator: Janet Schreck, PhD, CCC-SLP

Associate Vice Provost for Education
Johns Hopkins University
265 Garland Hall
3400 N. Charles St
Baltimore, MD 21218
410-516-5985
jschreck@jhu.edu

You are being asked to join a research study. Participation in this study is voluntary. Even if you decide to join now, you can change your mind later.

1. Research Summary (Key Information):The proposed project is conducted as part of dissertation work in the Doctor of Education program in the School of Education at Johns Hopkins University. The goal of the intervention is to study the effects of professional development related to advising strategies on academic advisors' practices and beliefs. The pilot study will utilize a mixed-methods approach to examine the effects of an appreciative advising professional development intervention on advising practices and beliefs in faculty advisors of undergraduate students majoring in speech-language-hearing sciences (SLHS). Total time commitment will be 5.5 hours, plus the time spent with advisees as part of regular advising duties. The study will take place between August 2019 and December 2019. Survey data will be collected electronically using Qualtrics and focus groups will be audio recorded using Recorder+ and transcribed using Otter.ai, an online transcription service, on a password protected device. The initial focus groups will take place in August or September 2019 and the final focus groups will take place in December 2019. Focus groups will be conducted in the Department of SLHS at Loyola University Maryland or online using Zoom and will be scheduled during the work day at the convenience of the participants (i.e., around class schedules). Verbal feedback will be collected with field notes and recorded in a research log maintained on a password protected device. Participants are undergraduate faculty advisors in the Department of SLHS at Loyola University Maryland. Potential benefits include contribution to a greater understanding of advising practices and this knowledge that may help advisors to provide improved support to students.

2. Why is this research being done?
This research is being done to study the effect of professional development related to advising strategies on academic advisors' practices and beliefs. People who are undergraduate faculty advisors in the Department of SLHS at Loyola University Maryland may join the study. We anticipate that about 8 people will take part in this study.

3. What will happen if you join this study?
If you agree to be in this study, the total time commitment will be 6 hours, and we will ask you to do the following things: • Complete an electronic pre-test survey (15 minutes)• Participate in a pre-test focus group (up to 60 minutes)• Complete one online training module (45 minutes)• Attend one professional development launch meeting (75 minutes)• Incorporate appreciative and praxis advising strategies in student meetings (existing meetings scheduled at the discretion of the advisor, no additional time for the study)• Read study-related emails (up to 30 minutes) • Complete a post-test survey (15 minutes)• Participate in a post-test focus group (up to 60 minutes)• Attend the debrief meeting at the conclusion of the study (60 minutes). Photographs/Video recordings: As part of this research, we are requesting your permission to create and use video and audio recordings of the launch and debrief meetings and audio recordings of the focus groups. Any video and audio recordings will not be used for advertising or non-study related purposes. You should know that:• You may request that the video and audio recording be stopped at any time.• If you agree to allow the video and audio recording and then change your mind, you may ask us to destroy that imaging/recording. If the imaging/recording has had all identifiers removed, we may not be able to do this. We will only use these video and audio recordings for the purposes of this research.
• The audio recording will be transcribed by an outside application (otter.ai) that stores data until deleted by the user, which will occur upon receipt of the transcription. How long will you be in the study? You will be in this study from August 2019 through December 2019.

4. What are the risks or discomforts of the study?
You may get tired or bored when we are asking you questions or you are completing questionnaires. You do not have to answer any question you do not want to answer. The risks associated with participation in this study are no greater than those encountered in daily life or during the performance of routine physical or psychological examinations or tests.

5. Are there benefits to being in the study?
There is no direct benefit to you from being in this study. However, your participation may contribute to a greater understanding of advising practices and this knowledge may help advisors to provide improved support to students.

6. What are your options if you do not want to be in the study?

Your participation in this study is entirely voluntary. You choose whether to participate. An alternative to participation is to not take part in the study. If you decide not to participate, there are no penalties, and you will not lose any benefits to which you would otherwise be entitled.

7. Will it cost you anything to be in this study? No.

8. Will you be paid if you join this study? No.

9. Can you leave the study early?
If you want to withdraw from the study, please contact Brianne Roos at bhiggins@loyola.edu or 516-457-6115.

10. Why might we take you out of the study early?
You may be taken out of the study if:• You fail to follow instructions.• The study is cancelled. If you are taken out of the study early, Johns Hopkins may use or give out your information that it has already collected if the information is needed for this study or any follow-up activities.

11. How will the confidentiality of your biospecimens and/or data be protected?
Any study records that identify you will be kept confidential to the extent possible by law. The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board and officials from government agencies such as the National Institutes of Health and the Office for Human Research Protections. (All of these people are required to keep your identity confidential.) Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records. Survey, focus group, and feedback data will be coded such that identifiers are recorded, but data are labeled with a code without identifiers. Linkage information will be kept by Brianne Roos on a password protected device. Identifying records will be kept confidential and stored for three years following the conclusion of the study.

What should you do if you have questions about the study?
Call the principal investigator, Janet Schreck at 410-516-5985. If you wish, you may contact the principal investigator by letter. The address is on page one of this consent form. If you cannot reach the principal investigator or wish to talk to someone else, call the IRB office at 410-516-5680. You can ask questions about this research study now or at any time during the study, by talking to the researcher(s) working with you or by calling Brianne Roos, secondary investigator, at 516-457-6115.If you have questions about your rights as a research participant or feel that you have not been treated fairly,

please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580.12.

What does your signature on this consent form mean?
Your signature on this form means that: You understand the information given to you in this form, you accept the provisions in the form, and you agree to join the study. You will not give up any legal rights by signing this consent form.

If you agree to participate in this study, please sign your name here:

If you agree to participate in this study, please select Agree. A paper copy of the consent form will also be provided to you. If you do not wish to participate in the study, select Disagree.

Curriculum Vitae

Brianne Higgins Roos
brianne.h.roos@gmail.com

EDUCATION

Ed.D. Johns Hopkins University, Technology Integration in K-16 Education, anticipated 2020

M.S., Loyola University Maryland, Speech Language Pathology, 2004
Bernard Saltysiak Medal of Clinical Excellence in Speech Language Pathology

B.A., Loyola University Maryland, Speech Language Pathology, Spanish minor, 2001
Summa Cum Laude, Phi Beta Kappa
Academic All-American, United States Rowing Association, 1998-2001

International Study, Universidad de Alcalá de Henares, Alcalá de Henares, Spain, 1999
Full immersion program with all courses conducted in Spanish

CERTIFICATION & LICENSURE

Certificate of Clinical Competence, American Speech Language Hearing Association, 2005-present
Maryland State License in Speech Language Pathology, 2004-present

HIGHER EDUCATION EXPERIENCE

Loyola University Maryland, Department of Speech-Language-Hearing Sciences (SLHS), Baltimore MD
Lecturer, Fall 2008-present

Teaching: Teaching load includes four 3-credit courses in fall/spring semesters in undergraduate/post-baccalaureate/graduate programs. Courses include:

- Introduction to Human Communication, SP 102
- Anatomy & Physiology of Speech and Language, SP 301
- Observation Methods & Techniques in Speech Language Pathology, SP 206
- Neurological Bases of Adult Communication Disorders, SP 406
- Anatomy & Physiology of Speech and Language, SP 501
- Observation Methods & Techniques in Speech Language Pathology, SP 506
- Counseling in Communication Disorders, SP 641

Johns Hopkins University, School of Education, Baltimore MD
Teaching Assistant, Fall 2019-present
Collaborate with Cohort Lead for first-year doctoral students to facilitate onboarding and continuous student support including: face-to-face orientation, ongoing synchronous and asynchronous online communication regarding dissertation research and IRB processes, advising, course work, program milestones, and degree audit

Leadership:

- *Director, Undergraduate Program in Speech-Language-Hearing Sciences, Loyola University Maryland, anticipated 2020*
- *Faculty Fellow, selected member of high-impact teaching professional learning community, Loyola University Maryland, 2019-present*
- *Director, Post-Baccalaureate (PB) Program in Speech-Language Pathology, Loyola University Maryland, 2013-2016*
- *Teaching Peer Mentor: Undergraduate, Post-Baccalaureate, Graduate Teaching Levels, Loyola University Maryland, 2015-present*
- *Academic Advising Mentor, Loyola University Maryland, 2015-2018*
- *Externship Coordinator for Graduate Department, Loyola University Maryland, 2010-2013*

Service:

- Academic Advisor for up to 30 undergraduate SLHS students per AY
- SLHS Curriculum Committee member
  -Extensive review of course content & sequence within SLHS resulted in revised SLHS curriculum, effective AY16-17
  -Integration of external review findings with institutional knowledge, provided consistent input throughout the process
- Undergraduate Writing Committee member
  -Intensive focus on level of student achievement in written content, form & APA style, to determine areas of need across curriculum
  -Development of rubrics, assessment of papers, writing curriculum review across course levels 100-400
- Write letters of recommendation for graduate school for 20-30+ students annually

CLINICAL EXPERIENCE

Greater Baltimore Medical Center, Milton J. Dance Head & Neck Rehabilitation Center, Baltimore MD
PRN Speech Language Pathologist, 2007-2016
Evaluation and treatment of dysphagia and cognitive-linguistic disorders in acute care, including intensive & intermediate levels of care.

Med-Star Health: Union Memorial Hospital, Good Samaritan Hospital and Nursing Center, Baltimore, MD
PRN Speech Language Pathologist, 2007-2013
Evaluation and treatment of dysphagia and cognitive-linguistic disorders at the acute care, acute rehab, outpatient and skilled nursing levels of care.

University of Maryland Medical Center (UMMC) / R. Adams Cowley Shock Trauma Center, Baltimore MD
Staff Speech Language Pathologist, formerly Clinical Fellow, 2004-2007
-Evaluation and treatment of dysphagia, oral communication and cognitive-linguistic disorders at the intensive and intermediate care levels in the following areas: neurology, neurosurgery / multi-trauma, traumatic brain injury (TBI) / internal medicine, general surgery, otolaryngology, general outpatient clinic, outpatient trauma clinic
-Trauma Theory mini-course instructor for nurses re: SLPs in Acute Care/Shock Trauma
-Secondary supervisor for graduate student clinicians

Private Practice Speech Language Pathology
Park School of Baltimore, Baltimore MD, 2012
Provision of articulation therapy to two Park School students, ages 6 and 10.

Mercy Volunteer Corps, St. Michael's Association for Special Education, Navajo Nation, AZ
Full time volunteer in Speech Therapy Department, 2001-2002
-Managed caseload of 25 Navajo students with special needs, including providing speech and language services & hearing screenings
-Earned the Americorps National Service Award

PUBLICATIONS & RESEARCH

- Borkoski, C. C. & **Roos, B. H.** (under review). Listening to and crafting stories: Cultivating activism in online doctoral students. *Impacting Education: Journal on Transforming Professional Practice*.
- **Roos, B. H**. & Schreck, J. S. (2019). Stress in undergraduate students studying communication sciences and disorders. *Perspectives of the ASHA Special Interest Groups,* 1-15. doi:10.1044/2019_PERS-SIG10-2019-0003
- **Roos, B. H**. (2014). Fetal alcohol spectrum disorders. In M. R. Kerins (Ed.), *Child and adolescent communication disorders: Organic and neurogenic bases* (pp. 305-346). San Diego: Plural Publishing.
- *Helping Students in Speech Language Pathology and Audiology to become Self-Regulated Writers*, Co-investigator of the SoTL project, principal investigator Dr. Lisa Schoenbrodt, 2013
- *Serial Assessment of Mild Head Injury,* administered cognitive test battery (SCATBI) & participated in research discussion for longitudinal study conducted at UMMC Shock Trauma and funded by the US Army, 2004-2006

PRESENTATIONS

- *Onboarding Online Doctoral Students: Cultivating Belonging, Identity, & Scholarly Dialogue*, presentation at Lilly Conference on Evidence-Based Teaching & Learning, 2020

- *Stress in Undergraduate Students Studying Speech-Language-Hearing Sciences,* technical session presented at American Speech-Language Hearing Association National Convention, 2019
- *Infusing Technology into the Higher Education Classroom: It's Easier than it Looks*, poster presentation at American Speech-Language Hearing Association National Convention, 2016
- *Morphological Differences in Spoken English between Navajo and Standard American English Speakers*, poster presentation at Maryland Speech, Language and Hearing Association Convention, 2004

PODCAST APPEARANCES

Roos, B., (Co-Host). (January, 2020). *Learning Educators' Identity Development and Values.* [audio podcast]. Link pending.

Roos, B., (Co-Host). (December, 2019). *Risk Taking and Transparency.* [audio podcast]. Retrieved from https://podcasts.apple.com/us/podcast/for-learning- educatorss-podcast/id1496216283

Roos, B., Contributor. "Teachers as Learners: A True Discussion Among Some Terrific Educators." EduTalk with Larry Jacobs. 2019 Oct. https://educationtalkradio.wordpress.com/2019/01/04/2019-archived-shows/

COMMUNITY

- Race for Education Co-Chair, raised >$40,000, exceeding goal by 33%, 2016, St. Joseph School, Cockeysville, MD
- Team Captain & organizer of SLHS team for Diane Geppi Aikens Memorial 5K, Loyola University MD, 2012-2014
- Parent volunteer, 2012-present, St. Joseph School, Cockeysville, MD
- Eucharistic Minister, 2012-present, St. Joseph Parish, Cockeysville, MD